

Farm Workshop

DIGEST

**96 PAGES OF USEFUL IDEAS
FOR FARM AND HOME**

VALUABLE MONEY-SAVING GADGETS

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HANDY HINTS *for*
FARM • WORKSHOP
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EVERY ITEM OF PRACTICAL VALUE TO FARM AND HOME  
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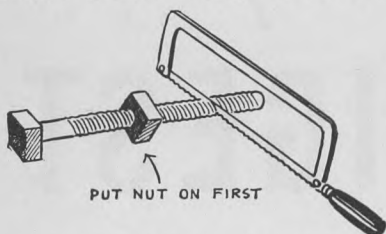
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JA

Source

Bolt Trick

Here is a little trick to eliminate jagged edges from a freshly sawn bolt without running a die over the threads. Before cutting off the bolt,



put on a nut between the head and the part where the saw is to be used. After sawing off the end, back the nut off the bolt and in so doing the threads will be smoothed.—O. A. Z.

Carrier Frame

To carry heavy pails without brushing them against your knees and spilling the contents, make a small, light frame of $1\frac{1}{2}$ by $\frac{3}{4}$ -inch material. A frame of convenient size will be 36 inches long by 28 inches wide. Step inside

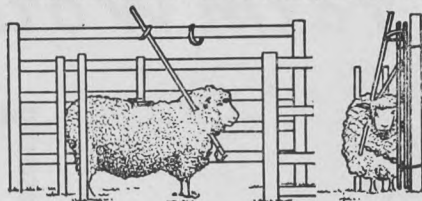


the completed frame, hold each side at the centre and while still holding the frame pick up a pail with each hand or, as in the diagram, grasp the frame through the bail of the pail and let your wrists carry the weight of each. The frame keeps the pails away from your body and makes for convenient walking.—J. C.

Sheep Crush

This idea came from New Zealand and will prevent the job of handling sheep for long stretches of time from becoming tiring. Set a well-built hurdle in a convenient place or use a convenient board fence. About six inches from the hurdle drive the 3x2-inch stake about four feet long, and a second one 12 inches from the hurdle

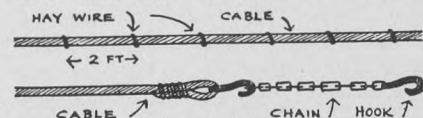
and six inches ahead of the first. These are to hold the rump of the animal firmly. At an appropriate height fix a small bracket to the hurdle, made of



3x $\frac{3}{4}$ -inch lumber. This should rest lightly on the sheep's back and will prevent upward movement. Next, a piece of light pole about three feet long is required for a halter pole. To one end of this attach six to eight inches of light chain, with a swivel in the centre. Attach the free end of the chain to the hurdle at a point suitable to the length and height of the sheep. The sheep is placed into position with its rump against the two stakes. The halter pole is brought around so that the top end will be held by a leather loop or strap on the top bar of the hurdle. Two straps a little distance apart will make adjustment to the size of the animal easier.—N.Z. Journal Agr.

Preserving Cable

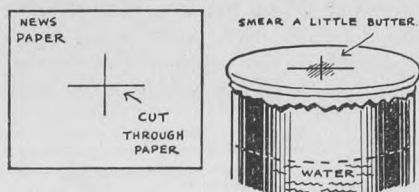
When a cable is used for pulling trees, or other objects where much repeated bending is required, the cable will tend to break or unravel.



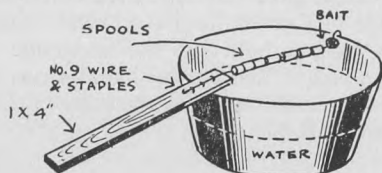
Wrapping the cable with hay or other wire every two feet helps to stop the unravelling. Breaking, on the other hand, which tends to occur where the cable is repeatedly bent around the tree, can be reduced by fastening a short length of chain to that end of the cable so that the chain, rather than the cable, takes the bending.—T. R.

Three Mouse Traps

Here are three variants of the mouse trap idea, each leading to the same end—drowning. By one method you select a piece of newspaper big enough to more than cover the top of a container half-filled with water. Tie the paper down tightly over the top, make

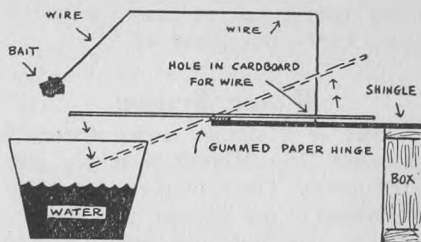


a cross slit in the centre, smear a little butter near the cut edges, provide a leaning stick or method for mice to climb to the top, and there is your trap. The second variant employs an open-topped vessel, also half-filled with water. A piece of 1x4-inch board long enough to serve as a ramp from the floor to the top of the vessel is used and to one end of it a 10 or 12-inch piece of No. 9 wire is stapled so that it projects about eight inches



from the end of the board. Six small spools slipped over this wire will complete the device except for turning up the remaining inch or two of wire at the end. To this turned up end the bait is attached. The wire and spools are bent to lie horizontally across the top of the pail over the water. The mice do the rest. Number three requires a 14-inch piece of wire, a 4x8-inch piece of cardboard (not too heavy) some fairly stout gummed paper, a piece of shingle four inches wide, the usual half pail of water, a box a little higher than the top of the

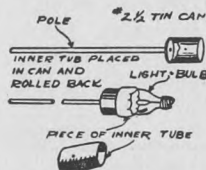
pail and a piece of board to use as a ramp from the floor to the top of the box. The shingle is fastened to the top of the box projecting toward, but not as far as, the pail. The cardboard is then fastened, lengthwise, to the outer end of the shingle and cut in two pieces, with the two pieces then hinged together underneath by the gummed paper. Arrange some bait on the



hooked end of the wire, fastening the latter in some way (see diagram) to the shingle. Arrange the board as a ramp to the top of the box, then wait for the mice to break the hinge on the cardboard and fall into the water. —W. P., J. N. T., H. E.

Replacing High Bulbs

To replace high electric bulbs in the yard or buildings, use a long pole or a piece of two by two, with a tin can (one end open), attached firmly to

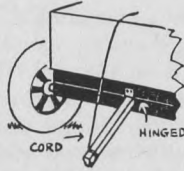


the end. Use a piece of rubber from an old inner tube about twice the length of the can, to line the can, and have it long enough so that the extra length will be rolled over the outside of the can. The rubber will provide sufficient grip so that when pushed up over the burnt out light it will loosen or tighten the bulb in the socket. Slight differences in the sizes of bulbs may be adjusted by extra rubber, but for large bulbs a larger can will be needed.—I. W. D.

Wagon Dog

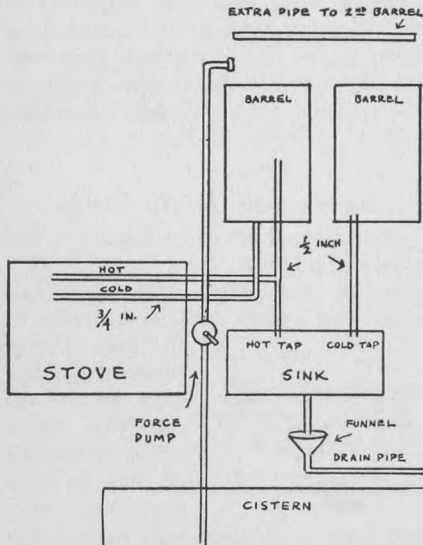
We use a short piece of 2x4-inch scantling with a short, stout brad at the end, as a dog for wagon or trailer on hills.

When not in use the dog is held up by a loop over the reach when the latter extends out, or from a rope fastened to the box above.—J. M.



Water System

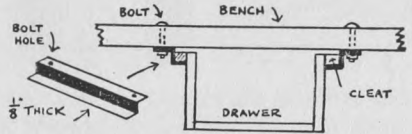
Here is a simple water system I installed. The diagram is nearly self-explanatory. The system can be set up anywhere in the kitchen; and the two barrels, one hot and one for cold water, can be boarded-in to look like



a cupboard. The pump is an ordinary circular, barrel force pump and the pipe used should be any convenient size the stove is tapped for. The cold water pipe from the hot water barrel should lead from the bottom of the barrel and the return should project up into the barrel at least a foot.—W. V. W.

Hanging Drawer

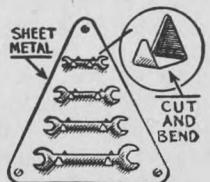
You can make a hanging drawer quite easily for the workshop with a few small pieces of lumber, two pieces of flat, or angle iron, and a few bolts. Make the drawer of any size to suit your space, using preferably clear, dry wood. Hang it by means of two pieces of 3/8-inch flat iron shaped as in the diagram, each piece being equal in length to the depth of the drawer. Bolt these to the underside of the work



bench as indicated, and fasten cleats, preferably of hard wood, to the top, outer edge of the drawer by means of screws. If the top or sliding surface of the iron is smoothed as much as possible and a little soap used on the underside of the cleat, the drawer will slide easily. If no shaping of the flat iron is practicable, use two pieces of small angle iron, bolting the horizontal side to a strong hardwood cleat, which in turn, is bolted to the underside of the bench. The drawer handles can be home-made or purchased for a few cents.—R. C.

Handy Wrench Holder

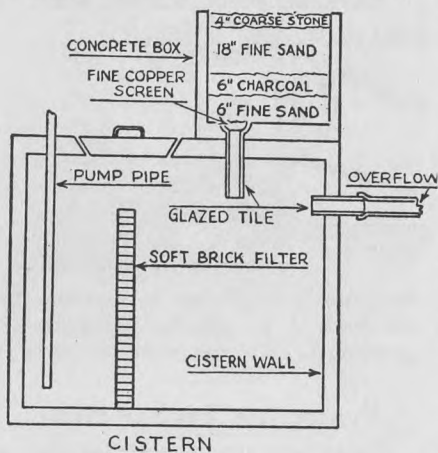
A wall plate for holding wrenches can be made easily from a piece of sheet metal. Cut it into the triangular shape shown and drill holes in each corner for mounting it. After laying off the position the wrenches are to occupy, punch out sections of the metal with a cold chisel



and bend these outward to form holders for the wrenches.—A.B., Sask.

Cistern Water Filter

Care should be taken that the washings from the roof and gutters are sent out the waste pipe when it starts to rain. Once they have been washed clean, the water should be directed to the cistern through a sand filter. The filter consists of a box about 36 inches square and of equal height. It is placed over the cistern which it drains into. Fine copper screen is required at the outlet from the filter to prevent sand from passing through.

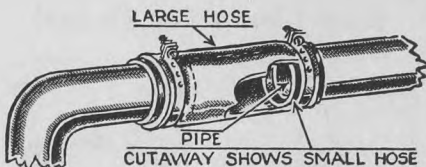


Over the screen are layers of sand, charcoal, sand and gravel or stone.

Where all traces of color and taste are to be removed from the water, a soft brick filter should be built in the cistern just like a dividing wall. The soft bricks should be laid on their sides and cemented together with a rich mortar to a height just below the level of the overflow pipe. Occasionally the bricks will have to be cleaned with water and a stiff brush. —F.H.L.

Hose Connections

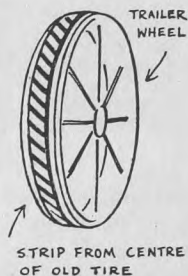
When the radiator hose on my car sprung a leak I found that it was badly rotted and that the only replacement I had was too large. The



problem was solved by cutting two 1½-inch rings from the best part of the old hose and using them like bushings. I slipped them on the ends of the water pipe, then placed the oversized hose over them and made the joints tight with adjustable clamps. —H.E.F.

Solid Rubber Trailer Tires

To fit solid rubber tires on your trailer inexpensively, use any old rubber tire from truck or bus. Slice a strip 2½ inches wide and 72 inches long from the centre of the old tread. Bevel five inches on each end of this strip, on the bottom of one end and the top of the other. Place the two ends together by riveting or vulcanizing. It will now be a heavy rubber band slightly smaller than the circumference of a 30x3½-inch Ford or Chevrolet rim and will fit tightly when mounted. Use on trailers only. On drive wheels of any description the tire creeps under power. —F. W.

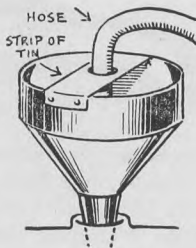


Splitting Logs

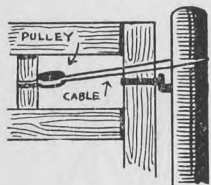
Wedges have the habit of jumping out of green logs particularly if the logs are frozen. A pinch of salt put on the log where the wedge is to be driven will stop a lot of jumping. Splitting becomes easier, quicker and less trying. —O.P.L.

Hose Clamp For Funnel

When filling a tractor in the fields from the hose of a fuel tank with the aid of a funnel, the hose can be kept from slipping by fastening a band of tin across the funnel mouth. Take a strip of heavy tin three to four inches wide and rivet or weld the ends to the sides of the funnel. Make an opening in the centre large enough to nicely take the end of the hose. When inserted well into the funnel mouth the hose will not slip.—M.W.



Protect Top Gate Hinges

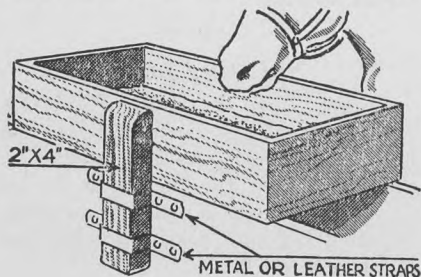


Sometimes heavy gates pull the top hinges loose. Generally all that is necessary is to provide extra

support by attaching a pulley to the gate as shown in the diagram, and running a wire cable through the pulley and around the gate post.—Earl R. Baker.

Removable Feed Box

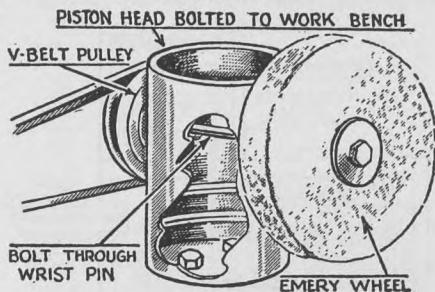
A removable feed box is especially useful for horses. Build a small square box and secure a short post of two-



inch by four-inch lumber to it. Fasten two metal or leather straps to the outside of the manger to act as loops for the post. The removable box can be kept clean with little trouble.—D.S.

Bench Grinder

An old piston head makes a good stand for a bench grinder or polishing head. Drill the top of the piston, then turn it upside down and bolt it to the bench. Put a snug-fitting shaft through



the wrist pin. Fasten a V-pulley to one end of it and the polishing or grinding head to the other.—W.H.M.

Protecting Anchor Posts

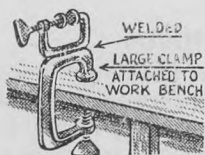
Posts which are always being driven into the ground and then removed



again have to have some protection against splitting. This is best done by driving on a ring or band of iron around the top of the post as shown. Anchor posts for hay stackers, tents, etc., should be strengthened in this way.—J.C.E.

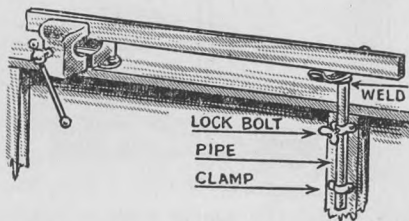
Improved Vise

A handy vise for the workshop can be made by welding a small C-clamp to a large one in the manner shown. If a pair of such vises are made they can be used for holding long pieces of wood, by varying the spacing between them on the work bench.—H.E.F.



Workbench Aid

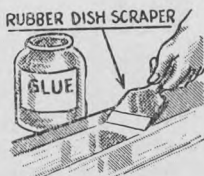
When handling long material in the bench vise an extra support, as shown, will be found handy. The support is a flat piece of iron welded to a length



of pipe. Two clamps, screwed to the bench leg as indicated, allow for vertical movement of the support and the upper clamp is drilled and tapped for a locking bolt or thumbscrew, which locks the support at any desired position.—A.B., Sask.

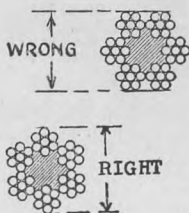
Glue Spreader

An ordinary plate scraper—a stiff little rubber paddle with a handle—makes an ideal glue spreader for the workshop. It is easy to work with, spreads the glue smoothly and evenly, and doesn't require a lot of work to clean up afterwards, as does a brush.—I.W.D.



Measuring Wire Cable

Steel cables, or wire ropes, are being used more and more on farms, and if one should break it might be important to know the diameter in

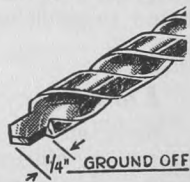


ordering a new piece. The correct diameter of a wire rope is the so-called diameter of a "circumscribed circle." That is, draw a circle that will enclose all

the strands without cutting through any of them, as will the circle marked "right." The circle marked "wrong" would cut through the outer strands.—W.F.S.

Faster Drilling

If a standard, high-speed twist drill is notched, as shown, it will cut through metal in about one-fifth the time taken by ordinary methods. The two lips, or flutes, are ground away to about one-fourth inch deep, the width of the remaining web being about one-third the diameter of the bit. The lips and the sides of the web are then ground to the shape shown to form cutting edges. This method is adaptable to bits of medium and large diameter. Care should be taken that the temper is not drawn from the bits when they are being ground.—H.E.F.



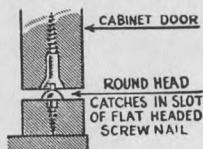
Brads From Nails

Brads such as are needed at the corner of window sash, screens, etc., can be made from nails, cutting off the head and leaving any length desired.—W.E.S.



Friction Door Catch

Two screw nails, one flat headed and one round headed, make a practical catch for cabinet doors. They should be so adjusted that the round tip of the round head will slide into the slot of the flat head when the door is properly closed.—E.S.



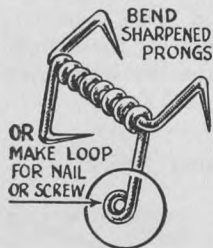
Marking Switches

Here is my handy luminous pointer to find the light switch on the darkest nights. I took an old alarm clock which had a luminous dial and hands, removed the minute hand and fastened it on the wall pointing to the light switch. I intend to use the hour hand and numbers for other switches. The darker the room the better these show up.—I.W.D.



Emergency Wire Hinges

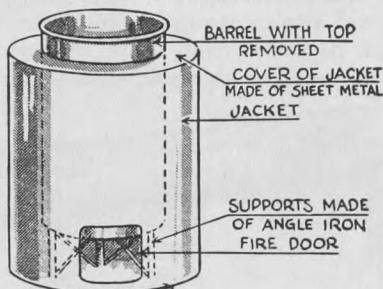
Made entirely out of wire, these emergency hinges will serve their purpose and are not hard to make. If small hinges are to be made, use medium wire and cut two pieces about six inches long. First bend one wire into a U, making sure that the corners are square. Next, wrap the other wire spirally around the first one and trim both ends down to about one inch. Sharpen the prongs if you do not wish to use nails for fastening. If nails or screws are used, loop the ends as in the draw-



ing. To fasten the hinge to the box, merely bend the sharpened prongs at right-angle, and drive them into the wood.—H.E.F.

Snow Melter

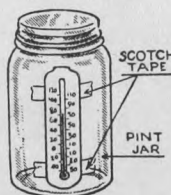
Unfortunates, who, like myself, have to melt snow to water their cattle will be able to use this type of heater. It is made by removing the top from a large steel barrel and setting the barrel up on a stand about one foot high. A large sheet of iron from a binder table can be used for a shield and should have the ends bolted together. Fill in the top between the outer



jacket and the barrel with a lighter piece of sheet metal. Cut an opening at the bottom for a fire door and on the opposite side at the top for a chimney. It is preferable to put one or two lengths of stove pipe over the chimney hole to improve the draft. One armful of wood is adequate to melt snow for a barrel of water in one hour unless the day is extremely cold and windy.—M.E.P.

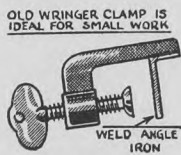
Brooder Thermometers

Place brooder and poultry thermometers in glass jars. They can be fastened to the inside of the jar with scotch tape. This protects the thermometer, keeps it clean and still keeps it easy to read.—A.E.



Clamps Are Handy

Small "C" clamps come in handy around any shop for woodworking, soldering or welding. Efficient clamps can be made from the clamps of discarded washing machine wringers. The solid base edge of the clamp can be made by welding in a short piece of angle iron. Be sure to use heavy angle material that will provide a surface as long as the movable end and heavy enough to take all the pressure that can be applied with the screw.—A.B.



Anti-freeze Collector

Anti-freeze is bound to evaporate away in the normal use of a car or truck. When the motor is overheated the loss will be rapid. Most of the evaporation can be recovered by connecting a leak-proof can to the overflow pipe of the radiator. Make this connection air-tight and place it at the bottom of the can. Cut a one-inch hole in the top of the can. Put an air-tight cap on the top of the radiator to force all steam and overflow into the can below. Condensation will accumulate in the can while the motor is hot, but when it cools off the contraction in the radiator will draw the liquid back up the tube and into the radiator.—J.M.

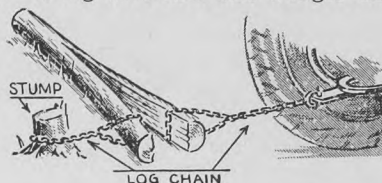


Prevent Chilled Fingers

I can't wear gloves when hanging out the clothes. Instead, I place the pins, bag and all, in the oven when I start washing. When I go out to the clothes line the hot bag and pins keep my fingers warm.—E.H.

Splitting Logs

Log splitting can become a job for the tractor. This system has saved a lot of time and work for my neighbors and for myself. We split the butt end of the log with axes and wedges until



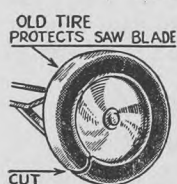
two chains can be tied around the halves. One is fastened to the tractor drawbar and the other tied to the stump. A steady pull from the tractor will split most logs without breaking them.—O.E.B.

Large Wrenches

I had a broken disk on my tandem disk harrow and had no wrench large enough to fit the arbor nut. I found an old leaf from a car spring and welded two pieces of heavy strap iron to one end to fit the nut. The job took only a few minutes' time and a bit of welding rod so I made other wrenches to fit barrel bungs and wheel nuts.—A.F.

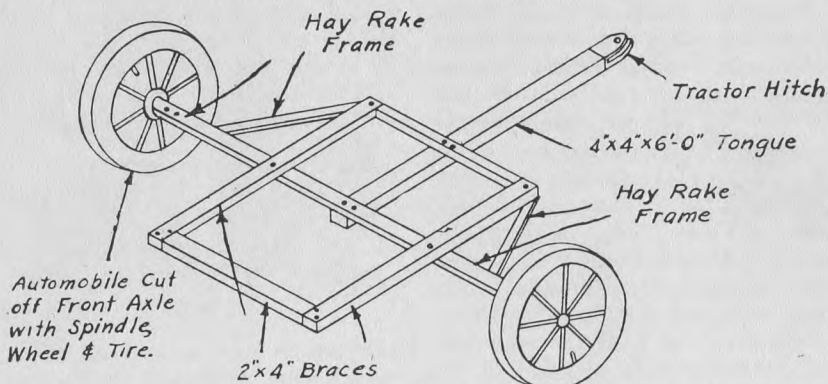


Saw Guard



It is much easier to cover up a circular saw blade than it is to remove the blade after each job. An old tire of about the size of the blade can be cut and used with little trouble. This guard will prevent damage to animals and children and will save the blade from weathering and rusting.—J.W.S.

Machine-Transporting Trailer



This is a rig I made for moving harrow sections and other machines to and from the fields and on the road. The frame is from a ten-foot hay rake with teeth, wheels, axles and other parts removed. At each end of this frame are bolted the wheels and spindles from a Model T Ford front axle. They are cut off about eight inches long. For a tongue, I used a six-foot four-by-four-inch piece bolted to the frame. For braces, I used two by four's but flat or angle iron can be used if preferred. This rig can easily carry five or six harrow sections or can be floored and used for odd hauling jobs around the farm.—A.M.

Milk Pail Aid



Our men folk had a great deal of trouble with the milk pails slipping from between their legs, especially when their overalls were new.

I cut rubber bands about two inches wide from old inner tubes and put two of them around each pail—one at the bottom, the other at the top. There is no more trouble from pails slipping and now the men won't milk without these bands.—E.U.

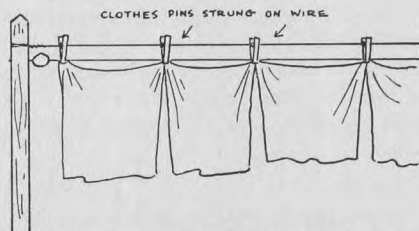
Opening Frozen Locks

Car locks give trouble in the winter time, particularly after the car has been washed. When a lock has frozen solid I heat up the key by holding it over a match until it is hot. After it has melted the ice so the key can be

inserted for the full distance, dip the key in denatured alcohol and insert it again. A final treatment should be given with light oil on the key.—I.W.D.

Clothes Line Convenience

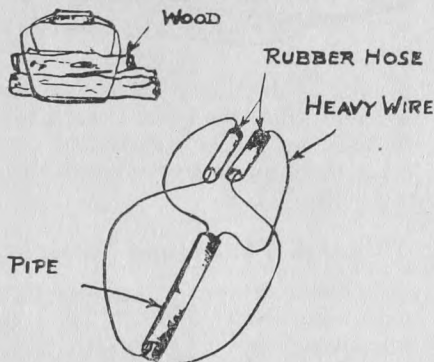
A second wire strung above the clothes wire will carry the pins and keep them handy and where they



won't be lost. Thread the pins onto the top line, running the wire through the centre of the coil spring in each pin. Leave the top wire slack enough so the pins can be clamped on the lower line without strain.—C.L.C.

Wood Basket

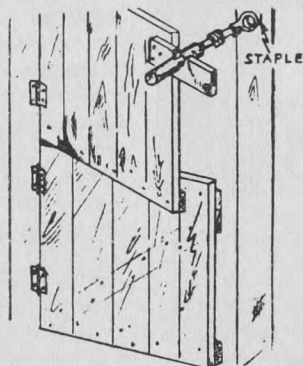
It is much easier to carry wood in this basket than it is in your arms. Two wires or light ropes are run through a pipe about a foot long. The ends are run through two short pieces



of rubber hose handles and then are tied. To use the basket, spread the handles out on the ground on either side of the pipe and stack the wood on the wires. When the handles are brought together, they hold the wood securely and the bundle is easily carried.—C.S.

Door Stop For The Barn

It is often necessary to hold the barn door partially open for ventilation purposes. This holder is out of the

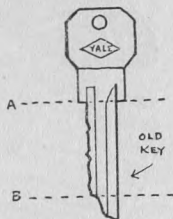


way and is always on the spot when needed. Take a piece of three-quarter-inch rod about 18 inches long and put

an eye on one end. Grind or file some notches on the rod about two inches apart. Staple this rod to the door frame so it is high enough to be out of the way. Cut a V-notch in a short piece of plate or strap iron and bolt this to the door. The rod can then be set in the notch to hold the door at any desired angle and is high enough that you don't bump into it.—M.C.R.

Key Ring Screwdriver

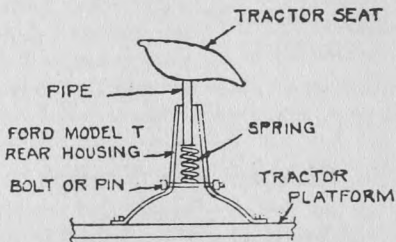
An old car or house key, cut off squarely and ground or filed to a slight taper, will make a small screwdriver which can be carried on the key ring and is always available.



By cutting the key at the end of the shank (line A), the point will be about five-sixteenth inch wide. Cutting at the end (line B) will give a point about three-sixteenth inch wide. It is convenient to have both sizes on the key ring.—M.K.V.

Spring-Mounted Tractor Seat

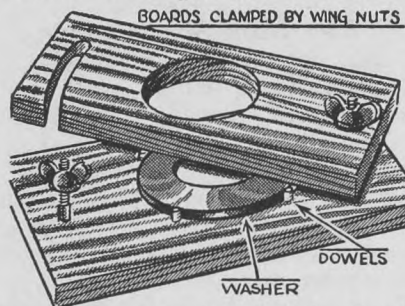
Old tractor seats can be made as comfortable as the new ones. Bolt half of a Model T housing to the platform of the tractor. Put a bolt through the housing, just above the bell and set



a heavy spring on this bolt. Weld or bolt the bottom of the seat to a pipe which is small enough to enter the hole in the housing. The seat is thus free to move up and down on the spring.—F.C.S.

Jig for Washers

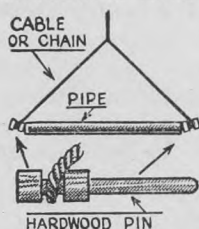
The simple jig illustrated will be found very handy for making washers or enlarging the holes in them. The upper plate holds the washer firmly and is tightened down with two wing nuts as shown. The hole in it must be larger than the hole in the washer, but smaller than the diameter of the washer. If a quantity of identical



washers are to be drilled, dowels should be used as indicated.—A.B.

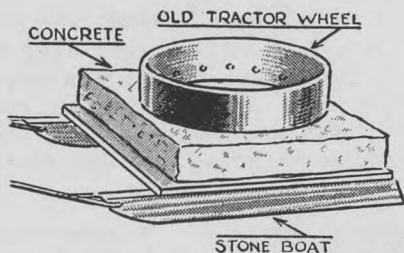
Protect Metal Threads

Much power lifting and handling on farms today involves steel hooks on the ends of cable chain or rope. Hard hooks into any convenient opening often result in battered threads or other damage. Figure 1 shows how to avoid this battering. Figure 2 shows pins made of hardwood which, inserted into the ends of a pipe, will avoid damage.—W.F.S.



Cheap Water Trough

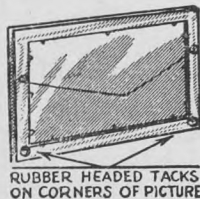
A low cost, convenient and portable water trough can be made by bedding an old, wide rim from a tractor wheel in cement, on a stoneboat, so that it can be moved with a tractor. Pour a level piece of concrete which is reinforced with a piece of woven wire fencing so that it will not crack. Press



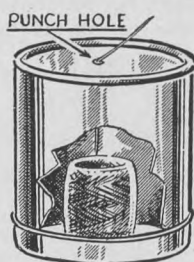
the rim of the tractor wheel into the concrete, while the latter is still fresh. If, later, any cracks occur in the concrete, they can be stopped with roofing putty.—L.L.H.

Pictures That Hang Straight

Pictures often move on walls from heavy moving objects outside and must be constantly straightened. If two small rubber-headed tacks are nailed to the two lower corners of the picture, the picture will remain straight, and it will also keep the walls from being marred.—R.K.W.



String Holder

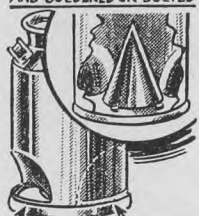


An inverted tin can serves as an excellent holder for a ball of twine, to keep it from jumping around when string is used. Punch a hole in the bottom, run the string through the hole, put the ball into the can, and then put the cover on it. I like inverting the can best, because when string is put through the top cover is sometimes pulled off. If desired, the inverted can may be made a permanent fixture by tacking the cover to a table.—W.F.S.

Poultry Feeder

The diagram shows a handy poultry feeder I make from a five or ten-gallon milk can. Cut a slit on three sides with a hacksaw, leaving enough material to support the upper part of the can, and pound in the cut sides so the hens can reach in and eat. Next make a ten or 12-inch round hole in the bottom of the can, and a funnel or cone which will just slip up through this hole. I fasten the cone by soldering, or with sheet metal screws or small bolts through the tabs left on the cone, and brought up against the underside of the can and bottom.—R.J.R.

CONE FITTED THROUGH HOLE,
AND SOLDERED OR BOLTED



CUT SLOTS, BEND METAL IN

Next make a ten or 12-inch round hole in the bottom of the can, and a funnel or cone which will just slip up through this hole. I fasten the cone by soldering, or with sheet metal screws or small bolts through the tabs left on the cone, and brought up against the underside of the can and bottom.—R.J.R.

Nut Lock

If I must lock a nut with no lock washer handy, I slot the end of the bolt with a hacksaw. The slot is made down to the top of the nut as in Figure 1, and a cold chisel and hammer then used to spread the bolt end. This holds nuts securely, but permits removal with a wrench because the slot allows the bolt to compress itself. The method requires a bolt long enough to extend a quarter inch or more above the tightened nut.—H.E.F.

SLOT BOLT WITH HACKSAW

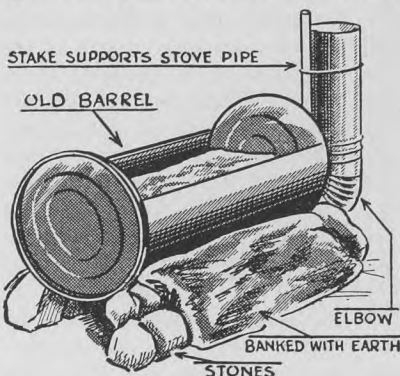


SPREAD BOLT WITH CHISEL

Cheap Food Cooker

I made a cheap food cooker which I have found very satisfactory for cooking root crops and other animal feeds. I cut the side out of a barrel and mounted the barrel on stones 12 to 15 inches above the ground as shown, with an opening 14 inches wide. At one end, I drove a pipe or

stake and wired two lengths of stove-pipe to it with an elbow extending



under the barrel. The remainder of the opening at this end can be covered with tin or stone or banked on three sides of the cooker with earth.—W.T.

Counting Piles

If you want to count a pile of posts, bags or other similar material, count the number in the lowest layer and multiply by a number that is one greater; then, divide by two, and you have your answer.

Thus, in Figure 1 there are seven posts in the lowest layer, and seven multiplied by eight and divided by two equals 28. For a pile as in Figure 2,



FIG. 1

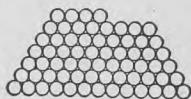
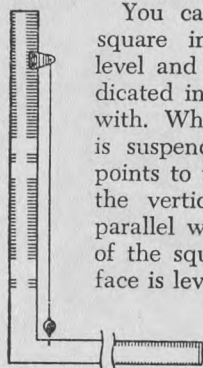


FIG. 2

make three counts: A, the number of posts in the lower layer; B, the number of complete layers; and C, the number of posts in the top incomplete layer. Multiply A by 2, subtract B, add one. Then multiply by $\frac{1}{2}$ of B and add C. Following the diagram, we would multiply 13 by two and subtract six, then add one to get 21; then multiply 21 by three and add four, to give us 67 posts in the pile. For a large pile, this method will save time.—W.F.S.

Level from Steel Square

You can work your steel square into a combination level and steel square as indicated in the drawing here-with. When the plumb bob is suspended as shown and points to the mark indicated, the vertical thread is then parallel with the vertical leg of the square. Then the surface is level, of course, or the upright leg is plumb. This device is exceedingly sensitive, more so than the bubble level.—W.F.S.



Knee Pads

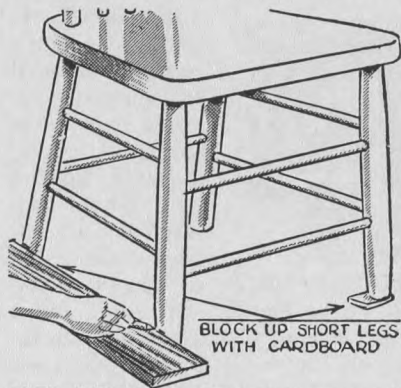
I made a handy pad or protection for my knees or trousers from an old 16 by 600 auto tube. It was marked off about 11 inches on the inside circle, and 18 inches on the outside, and then the cuts were made straight across. It fits snugly around my knees when I am wearing heavy breeches. It slips over your shoes with the short side back, and will stay in place nicely. I find it especially good for cross-cut sawing, loading rocks on stoneboat, in plowed fields, and for such jobs as trowelling concrete.—I.W.D.



Uneven Chair Legs

Unsteady chairs or tables, due to uneven legs, are easily fixed. Stand the chair on a perfectly level spot, and move the top from side to side to determine which legs are shortest. Place a suitable piece of cardboard or

similar material under the short legs, so that the chair stands solidly. Next, take a thin, straight piece of board about three feet long and lay on the

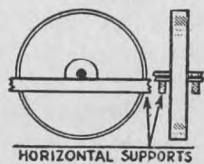


USE BOARD FOR MARKER ON ALL SIDES OF CHAIR

floor next to two of the legs, making a pencil mark along the edge of the board on the outside of each of the two legs. Do this on all four sides; then, with a fine-toothed saw, remove the four tips of the legs by cutting along the pencil marks, and if measurements and sawing are carefully done, all legs will be of the same length.—H.E.F.

Balancing Pulleys

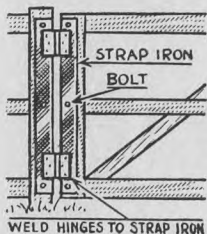
Rotating machinery that is out of balance can cause trouble. Balancing can be done by placing the member on a shaft that fits perfectly and then resting the shaft on two flat, horizontal supports. The member will roll back and forth until the heavy side comes to rest at the bottom.



When the heavy side is found the condition can be corrected by grinding or filing on the heavy side. Alternatively, weight can be added to the light side by welding, or drilling a hole, tapping and adding a screw or bolt.—W.F.S.

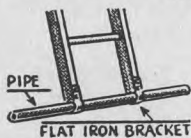
Sagproof Gate

The problem of hinges coming loose on a heavy gate can be overcome by welding the hinges to two pieces of strap iron, as shown. In assembling, lay the two pieces of strap iron parallel, about $\frac{1}{2}$ -inch apart. Weld the hinges securely, drill holes in the strap iron and bolt the assembly to the gate and gate post.—H.E.F.



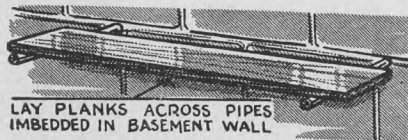
Steady Ladder

To make a ladder safe, and prevent it from twisting on uneven ground when in use, bend two pieces of strap iron, as shown, and fasten them to the ladder. A short length of pipe can be inserted in the lower end, making a firm base. To make it even safer, the same thing can be done at the top.—A.B., Sask.



Shelf Brackets

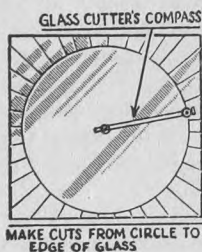
Permanent basement shelves can be made by positioning $\frac{3}{4}$ by 18-inch rods when the basement walls are poured. The rods can be placed four feet apart at the desired height. Later,



when a shelf is wanted, it is a simple matter to lay planks on these rods. If wide shelves are wanted sections of $\frac{3}{4}$ -inch pipe can be slipped over the rods—I.W.D.

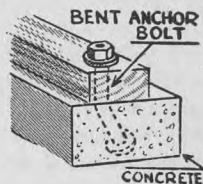
A Glass Circle

The trick in cutting circles or semi-circles in glass is to make cuts from the circumference of the circle to the outer edges of the glass. The glass will then break off in pieces around the circumference. A glass cutter's compass should be used for cutting the circle.—E.S.



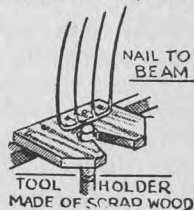
Anchoring Bolts

When bolts are anchored in concrete, for attaching objects which may be removed and replaced at intervals, bent bolts will have less tendency to loosen. If the bolts are bent they will also have less tendency to loosen under great tensions, as bent bolts will anchor much more firmly than straight ones.—A.B., Sask.



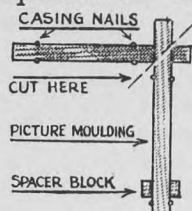
Small Tool Holder

There are many small tools about the farm which look untidy and may even be dangerous unless they are hung up out of the way. These include such tools as forks, shovels, scoops, spades and others which are in use frequently. You can make a convenient holder by using a piece of board in which a slot and hole is made as in the drawing. Nail this on top of a crosspiece and several of these will take care of the tools most commonly in use.—I.W.D.



Picture Frame Mitres

The quickest and best way to cut accurate mitres for picture frames is shown in the sketch. First, lay a square on the work bench, drive four

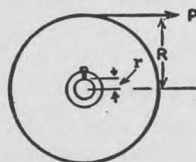


finishing nails along its outer edge and place the picture molding against the nails, one over the other, as in the sketch. Then drive in four other nails

to hold the two pieces in place. Make a spacer block as thick as the molding and slip under the free end of the piece lying over the other. With a hacksaw, cut through both pieces diagonally at the overlap. Because both cuts are made at the same time, the mitre will fit perfectly.—H.E.F.

Set Screw Strength

We often expect a set screw to pull entirely too much for its size. When you consider that the belt pull at P in the sketch is often in the hundreds of pounds it is surprising set screws hold as long as they do. A formula



will show the pull at P: (a) Multiply the horsepower being transmitted by the radius R in inches, and mul-

tiple by 33,000; (b) Multiply the velocity of the pulling force P in feet per minute by the radius r of the shaft in inches; Divide A by B and you have the force in pounds P that the set screw must hold. A 1/4-inch set screw should not be expected to hold over 100 pounds; a 3/8-inch 256 pounds; a 1/2-inch 500 pounds; a 5/8-inch 840 pounds; a 3/4-inch 1,280 pounds; a 1-inch 2,500 pounds, and a 1 1/4-inch 4,198 pounds. These figures give some idea of as to why 1/4-inch set screws so often slip.—W.F.S.

Bending Water Pipes

To bend a small water pipe take a piece of larger pipe, five or six feet long, and fasten a T-joint to its threaded end, as



shown. Slip this end over the smaller pipe to the point where the bend is to be made and stand on the latter to hold it down. The bend can now be readily made by pulling on the heavier pipe.—H.E.F.

Tire Traction On Ice

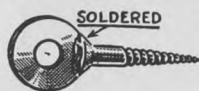
Here is my way of starting a car which is stalled on ice or snow. I carry two small rolls of sheet roofing in the trunk. They are one foot wide and



four to five feet long and take up little space. When the car is stuck I place one under each wheel with the rough side up and can pull out or back up with ease.—J.H.J.

Making a Thumbscrew

A thumbscrew can be readily improvised as shown by soldering a

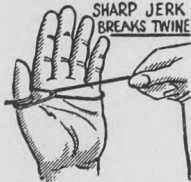


washer vertically to the head of a screw of the necessary size. A

sufficiently large washer should be used to be readily gripped in the fingers.—A.B., Sask.

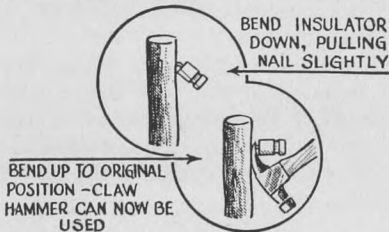
Breaking Twine

A straight pull will not break twine without hurting one's hands. By turning the cord around the thumb several times and then dropping a loop over the rest of the fingers the cord is placed on the hand as shown. With a stiff jerk the cord will break at the point where it is bent through the loop.—B.R.



Saving Fence Insulators

Electric fence insulators can be removed very easily without breaking them. Lay the hammer handle across the insulator and bear down on it with both arms until the nail is bent



to about 45 degrees. Straighten it back up to the horizontal position and it will be found that there is enough space left to insert the claw of a hammer or of a wrecking bar. Pull gently with the hammer and very few insulators will break.—O.A.H.

Secondary Claw

A small claw on your hammer is useful for pulling tacks or very small nails. File or grind the notch and bevel the inside edges. If the claw is too thick to readily go under the head of the tack, grind it down. This will not affect the general usefulness of the hammer.—A.B., Sask.



Pad For Tractor Seat

Sweat pads make the tractor seat more comfortable. They can be made by cutting and sewing as in the

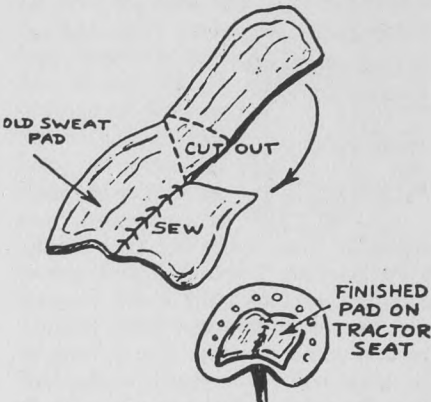
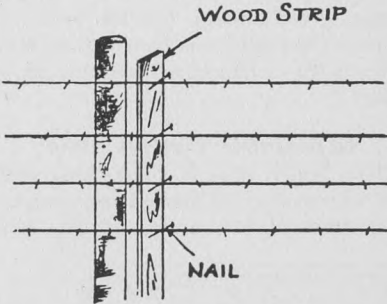


diagram. Canvas straps or string can be sewn to the pad and used to tie it securely to the seat.—M.V.S.

Fence Wire Spacer

A simple gauge to hold fence wires while they are being stapled makes the job easier and much neater. I use a three-inch board and drive in nails at the height of the wires. When all



the wires are stapled, a slight tap on the board, near the ground, will loosen it so it can be moved to the next post. For woven wire jobs, I put the top wire on the top nail and hold the bottom down with my foot. The other wires can be held down under their nails.—C.J.H.

Emergency Lantern Globe

On one occasion when the high line current failed, I made an emergency lantern globe from an old fruit jar. I removed the top and set the jar where it got good and cold. Then, I

PUT HOT LARD IN VERY COLD JAR, LET STAND - THEN LIFT JAR



heated enough lard to fill about half an inch in the bottom of the jar, set the cold jar level on a piece of paper or cardboard, and

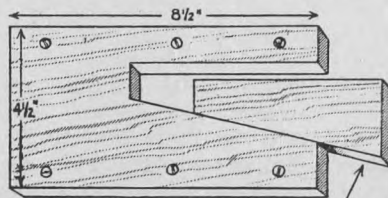
began to pour in the hot lard slowly. After pouring, I waited about half-a-minute, then took hold of the jar neck with one hand only and lifted straight up easily and steadily. The bottom of the glass will break easily at the lard line. Any size and shape of jar to fit an old lantern will do, but usually a large, open-neck jar is best.—E.L.J.

Moving Mired Equipment

We use this idea when a truck or tractor becomes stuck in mud. Heavy burlap bags are filled loosely with straw and tied securely. Two of these are always carried with each vehicle. When a machine bogs down we put one bag under each wheel and it has always given enough traction to move it out. The bags can be used several times with rubber-tired equipment.—L.W.C.

Adjustable Bench Stop

This bench stop is self-locking and self-adjusting. It is made from a piece of hardwood two inches thick, $8\frac{1}{2}$

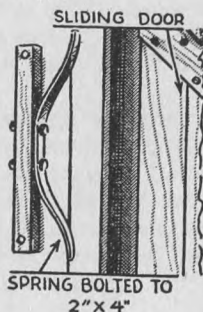


inches long and $4\frac{1}{2}$ inches wide. The edge of the wedge parallel to the side

of the block is five inches long and one inch in from the edge. The base of the wedge is one inch across. The thick end of the wedge is $2\frac{1}{4}$ inches wide and the block fits snugly in the slot. The unit can be fastened to the top of the bench and used to hold edges, bevels and half-rounds as well as standard materials.—I.L.P.

Door Stopper

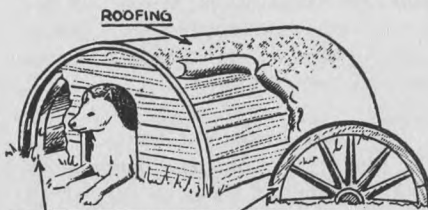
Sliding doors get rough treatment if they are not provided with a stopper. The latter protects the door jam and saves needless repairing. The spring and its mounting can be taken



from an old wagon seat. When they are fastened to the door frame with the ends of the springs projecting past the jam, they provide a cushioning effect as the door comes to the closed position.—A.F.B.

House For Fido

I built a handy and comfortable house for our dog by using the felloes



REMOVE TIRE, SPOKES—USE FELLOES AS RAFTERS

from a discarded wagon wheel. I removed the tire and sawed off the spokes as close to the rim as possible. The felloes then fell into two parts which I used as rafters—one at each end of the house. Narrow boards served as sheathing and were covered with some roll roofing.—A.S.W.

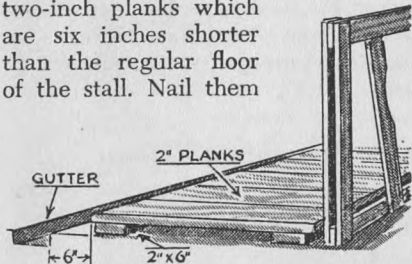
Rope Halter Release

Stockmen know that it is frequently more difficult to take a rope halter off a wild beast than it is to put it on. An easy way to overcome this is to tie a cord or light rope into the left cheek of the halter. To release the animal, drop the halter shank and pull the release cord. The halter will open right up and drop off.—A.M.M.



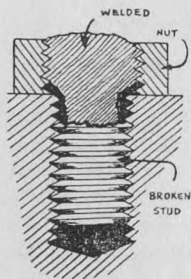
Calf Stall Floor

Here is a sketch of a clean, handy stall floor for young livestock. I use two-inch planks which are six inches shorter than the regular floor of the stall. Nail them



to two-by-six-inch bed pieces across the front and back of the stall. The whole false floor can be removed easily when desired.—F.M.S.

Broken Studs

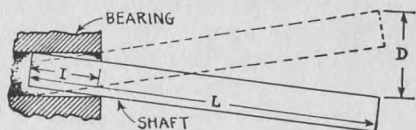


An arc welding machine can be used to remove broken studs more easily than any other method. A large nut is placed over the hole in which the stud has broken. Build up the stud by weld-

ing onto it and then weld to the nut. The stud should turn out without difficulty as the heating of the welder will loosen it and a large wrench can be applied.—W.F.S.

Measuring Bearing Clearances

Bearing clearances can be measured without the use of delicate instruments. Take the length of the shaft—length L . Insert the shaft back into the bearing a convenient distance— I . Move the end of the shaft up and



down and measure from one extreme to the other— D . If there is no clearance, D will be zero. To calculate the clearance, use the formula

$$C = \frac{D \times I}{2L - I}$$

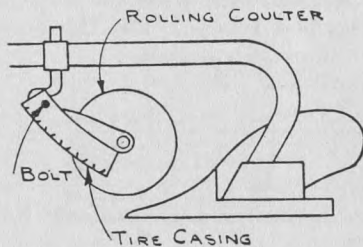
Thus if D is $\frac{1}{4}$ -inch; I is 1 inch; and L is 10 inches. Clearance is

$$\frac{\frac{1}{4} \times 1}{20 - 1} = \frac{1}{4 \times 19} = \frac{1}{76} = .01316 \text{ inches}$$

It is obvious that this method is also useful for determining if a bearing is out of round. It is done by measuring the clearance in several directions.—W.F.S.

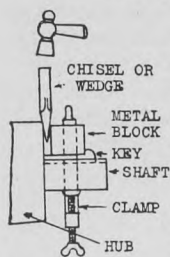
Coulter Trash Shield

Where weeds and heavy stubble cause the coulter of the plow to plug up, a trash shield can be made from an old tire casing. Bolt the casing in



place as shown and split it in the centre so the coulter can run in the slit. The trash will be pushed down when the coulter blade slices through it.—A.R.

Pulling Tight Keys



This method of pulling a tight key has many variations and can be adapted to suit a multitude of situations. The idea is to use a metal block against the head of the key. It is clamped on the shaft to hold it in place and a chisel or wedge is driven down between the block and the hub of the wheel or pulley which is keyed to the shaft. For purposes of illustration the block is shown thicker than it should be.—W.S.

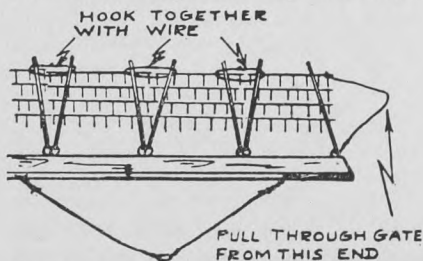
Gate for Dog



Here is a diagram of a door in a gate which lets the dog pass in and out, but bars the chickens. We find it a great convenience.—I.W.D.

Taking Harrow Through Gate

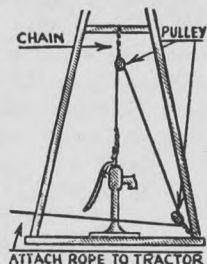
When wide strings of harrows have to be moved through narrow gates, it can be done most easily by pulling them from the end. Put a chain on the end section and tie the backs of the sections together. Lay the draw-



bar back over the harrows and the outfit will pass through an eight-foot gate.—P.P.

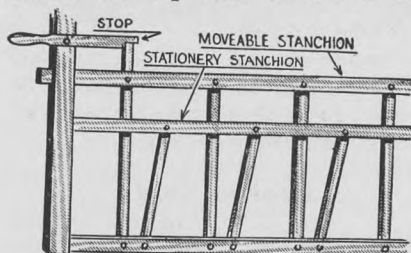
Lifting Well Piping

If you have a windmill over your well it is easy to lift the piping or cylinder. We use a chain eight to ten feet long to fasten a pulley just below the windmill tower platform, and also chain a pulley to one of the corner anchors of the tower. A rope is run through the upper pulley, then through the lower one, and pulled with a car or tractor. A chain is fastened to the rope and looped around the pump or piping. Heavy boards laid across the tower connectors allow a man to guide the pipe and remove defective parts.—I.W.D.



Stanchion Release

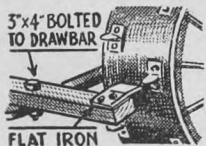
To save time in handling cattle, connect the top ends of a row of



stanchions to one cross-piece. The moveable uprights must be bolted to the front of the stall at the bottom with single bolts. At the top they are bolted to the moveable cross-bar. The latter must have free ends which can move up and down slightly as the stanchions are opened and closed. We have six cattle served by one cross-piece but more could be added. They are all released or locked in by one operation and it saves going between the animals to handle them individually.—J.K.

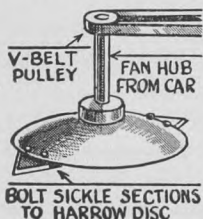
Lug Scraper

A scraper for a lug tractor can be readily made from a length of three-by-four wood stock with pieces of heavy flat iron bolted on the ends, as shown. Bolt the assembly to the drawbar, so that the scraper ends project between the rows of lugs on the wheels. —A.B., Sask.



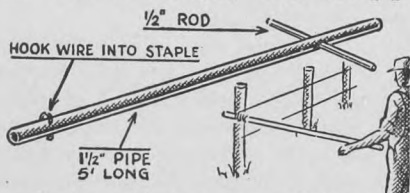
Weed Cutter

In the weed cutter shown I made the cutter wheel out of a disk from a disk harrow and the hub from a car fan assembly. For the cutting units I fastened on two sickle sections opposite each other with stove bolts so they can be replaced. By reversing the half twist in the belt both cutting edges will be used before it is necessary to sharpen the blade. —I.W.D.



Wire Stretcher

A good wire stretcher can be made from a five-foot piece of 1½-inch pipe, and a two-foot length of half-inch rod. Drill a hole a foot from the end of the pipe and drive in the rod to make a handle. Six inches from the other end drill a hole for a pin. In use, hook the wire to the pin, twist the pipe

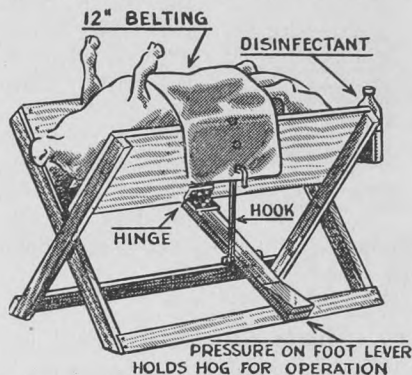


until the wire is tight, and then use it as a lever to pull the wire around

the post. With a little practice the wire can be walked right around the post and attached to the line wire, doing away with staples at the corner posts. —C.W.H.

Cutting Pigs Alone

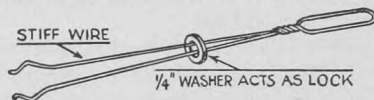
A raised trough, as shown in the illustration, is handy for castrating pigs. Lift the pig in, and fit the hook so that the belting will be pulled



tight over the pig by the pressure of your foot on the lever. The pig is held still while you do the operation. —R.L.P.

“Fishing” Tool

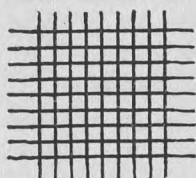
This wire gadget is for “fishing” nuts, bolts, small wrenches, etc., from



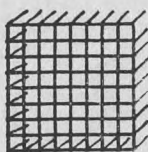
transmissions and other inaccessible places. It is made from stiff wire such as that used in a fly swatter handle and is shaped as shown. A ¼-inch washer slipped over the handle serves as a lock to hold the “fish” securely. In confined space the “lock” can be tightened down by pushing it with a small stick or rod. The apparatus has even been used to recover a large screw driver from a gasoline tank. —W.J.B.

Patching Screens

Holes in screens can be easily mended with another piece of screen.



STEP 1 - STRIP WIRES AROUND PATCH



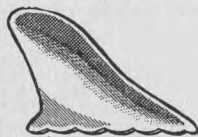
STEP 2 - BEND AT RIGHT ANGLES

the screen being patched and finally clinch the ends.—W.F.S.

Cut off a patch of ample size and strip some of the wire from the edges. This leaves wires projecting in all four directions, as shown in the sketch. Bend the ends square with the plane of the screen. Place the patch over the hole, push the projecting ends through the meshes of the

Cuts Tough Roots

Here is an idea for sharpening a plow share so it will do a better job of cutting alfalfa roots, especially when the share begins to get dull. Grind the share on an emery wheel so that it has a scalloped appearance. If these are kept sharp they cannot slide along the edge and fail to cut as they sometimes do with a straight-edged share.—I.W.D.



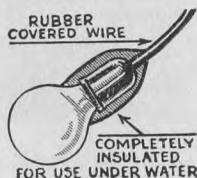
SCALLOP AND SHARPEN CUTTING EDGE OF SHARE

Removing Rusty Screws

When rusty screws will not break loose with the screw driver I let some penetrating oil soak in for a while. If this does not do the trick I heat a rod of soldering copper until it is red then hold it against the head of the screw for a few minutes. The screw will then loosen and come out easily.—F.M.S.

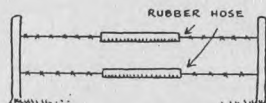
Underwater Light

It is sometimes necessary to do some searching under water for dropped objects. Ordinary pilot lights are unsafe and should not be used, but a safe underwater light can be made by the use of rubber covered wire and a bulb that is carefully sealed from the water with a non-conducting plastic material. The important thing is to keep all wiring and contact points dry, and this necessitates careful insulating.—W.F.S.



Safety Fences

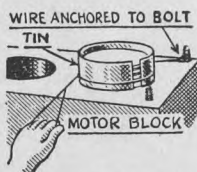
Short lengths of rubber hose should be pulled over the barbed wire where



people wish to pass through. They prevent your clothes from being caught and torn and they also insulate a person against electric shock.—J.Z.

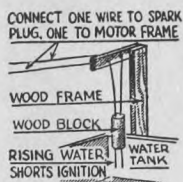
Piston Ring Compressor

On a recent overhaul job I had to improvise a ring compressor to get the pistons back in the block. I used a length of baling wire and a strip of heavy galvanized sheet iron about two inches wide and long enough to go around the piston. I fastened one end of the wire to a head bolt and wrapped it once around the tin and piston. Tightening the wire compressed the rings so the piston could be tapped into the cylinder with a hammer handle. This system works just as fast as a ring compressor.—A.F.



Automatic Pump Control

This device is very simple but can only be used when spark plug type engines are used for pumping water into the trough. The voltage on igniter type engines is not usually high enough to short across the gap. Drill



a small wooden block and insert two wires to protrude through the block. Keep them about one inch apart except at the points

which should have a one-quarter inch gap between them. Suspend the block over the trough with the points downward and at the level to which the trough is to be filled. Connect one wire to the spark plug of the engine and the other to the frame of the motor. Start the engine in the normal way. There is no danger of the trough overflowing; when the water rises to the wires in the block it will short circuit the ignition system of the engine, shutting it off and stopping the pumping.—C.R.A.

Pail Carrier

You recently showed a frame for carrying pails of water but I think that my system is much better. Use an old length of line strap with snaps in

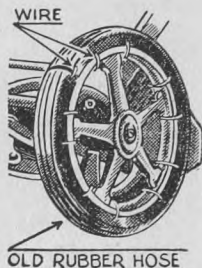


each end and a buckle near one end for adjusting the length of the strap. Hang the pails from the snaps and keep them away from your legs with

a bent stick. Notch the ends of the stick to hold the straps from slipping. With this outfit, you can bend over and fill the pails without removing them and once you are standing straight, can carry them without taking any weight on your arms.—A.W.

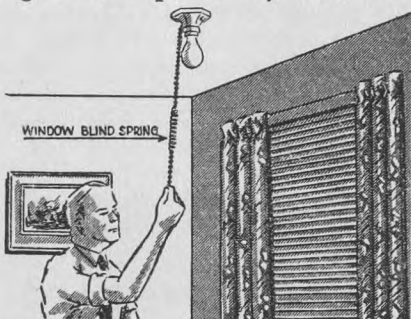
Modernize the Lawn Mower

Rubber tires on the old lawn mower will make it look like new. Cut a piece of garden hose to fit the circumference of the wheel. Punch holes on both sides—half an inch from each end and two between each wheel spoke. Do not split the hose as it has more cushioning effect if it is put on as a cylinder. Wire it on as shown in the drawing.—E.J.T.



Spring In Switch Cord

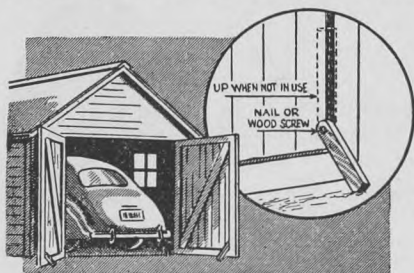
Electric pull-type switches and sockets are often ruined by heavy jerking. This is particularly true when



children are pulling the cord. To prevent this damage and the nuisance of replacing the cords, take a light coil spring from a curtain roller and tie it in as part of the cord. These springs have about the right tension to take up the shock when the light is to be switched on or off.—P.W.A.

Door Stopper

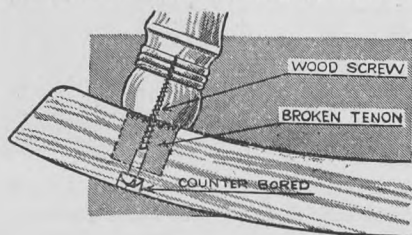
Every farm has at least one door that is continually a nuisance by blowing shut. Here is a sure-fire way to hold it open and it is much better than strings, wires or hooks. Nail a 12-inch length of board (about one by two inches) to the door so that it will hang down at a slant to the ground. An extra piece of two by two-inch



material may have to be added to doors with light frames, to provide a base for the stopper. When not in use the stopper is swung up out of the way.—R.E.A.

Repairing Broken Furniture

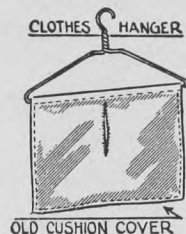
This kink is often handy in repairing furniture since many breaks are due to broken tenons. First drill an under-size hole through the broken arm or rocker, the tenon and the leg or rung. Also counter-bore the hole so the head of the screw will be flush or



preferably counter-sunk. If the head of the screw is in a position where it will show, cover it with a wooden dowel or plug or fill in over it with plastic wood.—H.E.F.

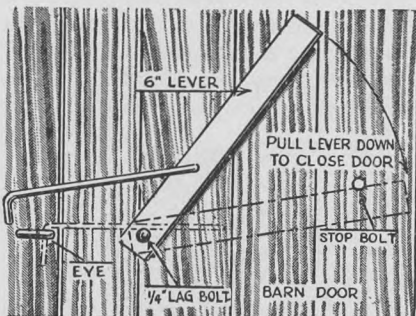
Clothes Pin Bag

Cushion covers which have served their day in the living room can be put to use as bags for clothes pins or dusters. An ordinary wire hanger is inserted at the top of the cover, then the front is cut down to form a slit opening. The edges and opening are all hemmed. When hanging out the washing the pin bag can be hung on the line and pushed ahead of the hanging operations. As a duster bag the unit can be hung on the back of a closet door.—A.P.



Sliding Door Closer

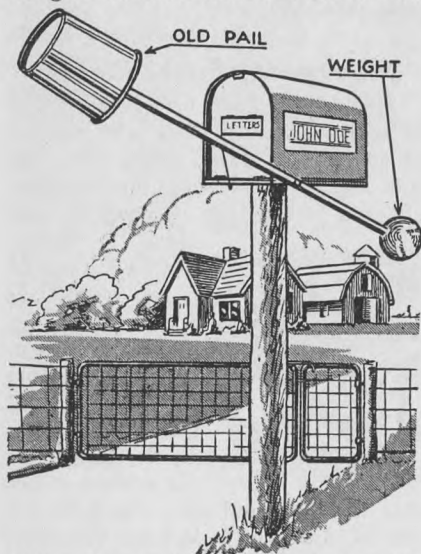
The last inch or two is often the toughest in closing sliding doors. Make a lever out of a six-inch piece of strap iron by drilling a quarter-inch hole at one end and another about two inches up from it. Fasten it to the door with a bolt or lag screw and put a light-rod



hook in the centre hole. To snug the door up tight, drop the hook in the eye on the door jam, then pull down the handle of the lever and fasten it under the head of the stop bolt. For heavy doors a longer lever should be used, giving additional leverage.—W.K.R.

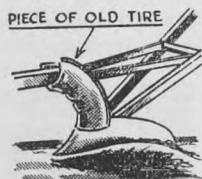
Mail Box Flag

The flag is simply to show when the mail man has gone by and left something in the mail box. It saves us a lot



of time because the box is half a mile from the house. I took an old mower knife and removed the sections leaving on the head for a weight. The arm is about three feet long, fastened at the centre to the side of the box and tied down with a string and hook at the light end. When the mail carrier leaves something for us he slips the hook out from under the box, allowing the pail to go up and give us the signal.—A.W.G.

Prevent Plow Beam Clogging

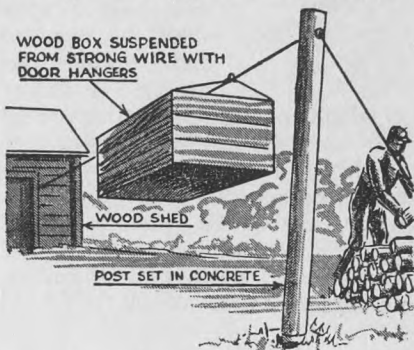


If your plow beam has a tendency to clog, this can be prevented by slipping a piece of outer casing over the beam so that it

will extend down two or three inches over the moldboard. This will give a smoothly rounded surface and prevent clogging.—P.J.

Wood Carrier

We like to saw our wood at a pile quite a distance from the house but found an easy way to move it into the wood shed at the back door. Dig a hole at the wood pile and set a post in it, filling the hole with cement. Brace the top with a guy wire and run a steel



rope or cable from the top of the post to the top of the wood shed door. Fasten a large box to the cable with rolling door hangers. The box can then be filled with wood, pushed down to the shed and emptied with little effort.—W.R.

Shaking Down Thermometers

The best way to shake down a medical thermometer for an animal is not to shake it down at all. Insert it in a strong paper, leather, cloth or other container, with the mercury bulb down. Close the end and attach a strong string. Then whirl the container as you would whirl a slingshot. This whirling will exert a centrifugal force which will cause the mercury to move toward the bulb, and there is no danger that the thermometer will be ruined.—W.F.S.



Fine Seeds Planting Can

When gardening time came, neither my husband nor I could stoop to plant seeds. I used a small 1½-ounce spice

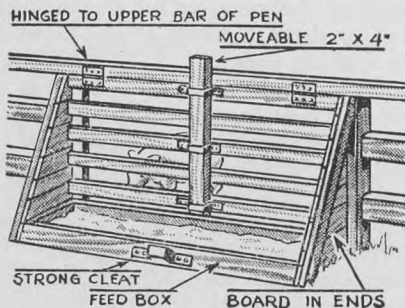


can, and fastened it to a piece of smooth lath 2½ feet long, by using several wrappings of wide adhesive tape, to make it solid. The

can had a shaker top which could be opened according to the size of seeds. With this device, I could plant fine seeds when it was windy, because I could hold the planter close to the ground and still did not have to bend over. I had such good luck with it that I didn't have to thin my plants out.—Mrs. B.D.

Pig-Feeding Gate

A handy way to feed pigs is to have a feeding gate which will keep pigs out of the trough while the feed is being put in. This gate forms part of the front end of the pen, and one side of it should preferably be at the wall. It is hung from hinges and has a two-by-four sliding through small iron holders. When feeding, the feed is pushed in at the bottom to extend



beyond the trough, and the two-by-four slides into a holder on the outside. When feeding is completed, the gate is allowed to swing back and the two-by-four slides into another holder on the other side of the trough. The

end of the trough away from the wall should be provided with a small sloping wall to close off the aperture when the gate is pushed back inside the pen.—M.O.M.

Sharpening Fence Pickets

Here is the easiest way I have found to sharpen fence pickets with the aid of an ordinary farm power saw. The saw can be easily and inexpensively adapted to the task. A good rip saw



blade is better, but the job can be done nearly as well with the ordinary crosscut. Lower the tilting feed table out of the way. Get a short piece of plank four or five

feet in length, and place alongside the saw blade, with just enough clearance to allow the saw to run freely without rubbing against the plank. Have the necessary guard in place and when operating stand so that the top of the saw is turning away from you. Hold the picket to the saw at an angle, start in the cut about a foot or so from the end, and draw the picket toward you. Then turn the picket so that the first cut lies flat on the plank, and proceed as before. Four such cuts should give you a good point.—M.E.P.

Cutting Roofing

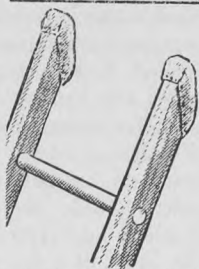
When using tin shears to cut roofing, linoleum, or composition shingles, dip the shears in oil to prevent gumming of the blades. This will help to make a clean cut without tearing or folding of the material. Any type of heavy oil will do.—A.B., Sask.



Ladder Pad

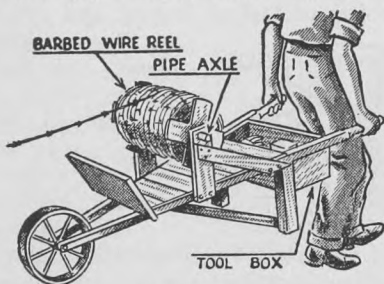
TACK SHEEPSKIN ON LADDER

Tacking a piece of sheepskin on the top ends of a ladder will prevent scratching the paint where the top rests against the wood or other finish. Where used while painting, however, it would be necessary to have a ladder, so equipped, resting against an unpainted area. It is very useful for putting on trim where the ladder must often rest against freshly dried paint. —R.K.W.



Barbed Wire on Unreeler

With any old wheelbarrow, it is a simple matter to make an unreeler for barbed wire, which one man can easily handle. Nail two uprights about a foot high as shown in the illustration, near the front of the wheelbarrow, bracing them toward the handle. Make holes through the uprights for a short pipe axle on which the reel of



barbed wire will turn and the wire will pay out as you pull the outfit along. If you nail a box on the inside of the handle, it will be handy for holding staples and tools. If no old wheelbarrow is available, nail uprights on the sides of an open box about 18 inches square with the bottom down. Set the box in a wheelbarrow, fastening solidly with a light rope or baling

wire, put around and under the wheelbarrow, and twist it. Then the reel and shaft can be put in place with the staples and tools in the box and it is ready to work. When the job is done, the reel and box can be kept for another occasion. —I.W.D.

Moving Mud-Stuck Tractor

If you get stuck in the mud or on ice with your tractor, here is an easy way to put on the chains. Lay the chains on the wheels in the usual way, then fasten the side chains together



LAY CHAIN ON TIRE AND FASTEN WITH SMALL CHAIN

between the spokes of the wheel with another short length of chain with snaps or grab hooks on the ends to fasten. Start the tractor slowly in low gear, and the wheels will draw the chains under and into position for fastening. If you do not have short chains to tie through the wheel openings, baling wire will do for the emergency. If you do not have your tire chains, a good log chain can be wound around the tire and through the openings, to give enough traction. —H.A.C.

Prevent Posts Splitting

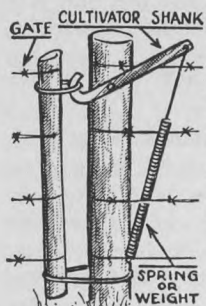
For my electric fence I use four-foot tamarack posts two inches across at the top. When the ground is hard the top of the post is badly split by



the time the post is firmly set. To prevent this I tapered them a little at the top and tacked two layers of half inch strips of galvanized roofing around the top end. A one-and-a-half inch cap might be even better. Either one prevents splitting. —I.W.D.

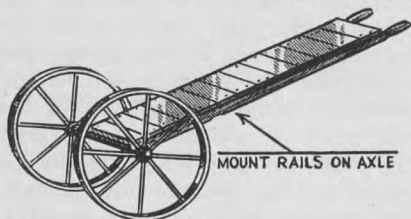
Tight Gate

The sketch herewith shows an easy way to open and close wire gates, and keep them wired tight all the time. It is a good device also for electric fence gates. The curved piece is a shank from an old cultivator. A weight can be used instead of the spring, which is also from an old cultivator, but a cow or horse would be more likely to open the gate.—D.K.S.



Keep Your Feet Dry

A couple of discarded rake wheels can be used to make a platform for hauling water from a slough. Put an axle between the two wheels and



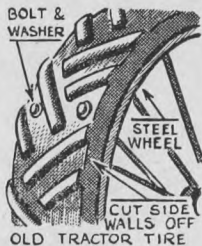
fasten two rails vertical to the axle, about 18 inches apart. Nail boards between these rails for a walk. The rails can be set on the edge of the truck or wagon, or on the edge of the slough, with the wheels out in the water. This makes a good walk for bucketing out of deeper water.—F.J., Sask.

Making Cedar Shakes

Much better cedar shakes are made for a roofing job by up-ending, or reversing, the cedar block each time a shake is thrown. This produces a feather edge on one end of the shake and a neater finished job.—E.G.H.

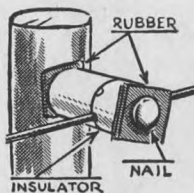
Rubber Tractor Lugs

To make a tractor on steel ride and work easier, I remove the lugs and bolt regular tractor tires on the wheels. Discarded tractor tires with plenty of tread left can be had from any junk yard for a couple of dollars. Cut the head off on both sides and use washers under the bolts. If a tire is too long, cut it off. Cutting will not decrease efficiency. A tractor so equipped can be used on hard roads. The cost to equip a tractor in this way may be under \$10, whereas a complete set of tires would cost a great deal more, and I find the difference in operation is very little.—K.G.



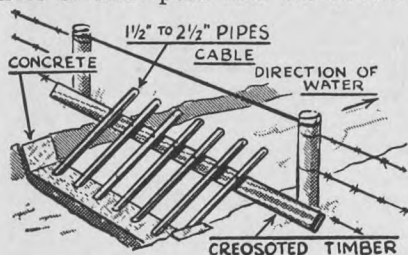
Save Fence Insulators

I have found I can nail electric fence insulators without breaking them by the following method: Take an old tractor inner tube or piece of rubber or leather belting and cut it up into pieces about one inch square. Drive a nail through each piece and this makes a soft washer between the nail head and the insulator. Very few insulators will be broken if the nails are driven carefully. If you have a block of wood with a small hole in it, it is easy to drive the nails through the rubber pieces. If you use auto inner tubes, use two or three thicknesses. If a soft washer is used under the insulator and the nail is not driven too tight, a thin hammer or wrecking bar can generally be used to remove the insulator without breaking.—I.W.D.

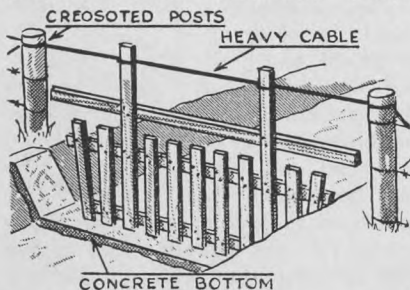


Water Gates

For fencing across a stream cutting through a hog or sheep pasture, where the water may practically disappear in the summer and be quite high in spring, a water gate is handy. Often these are of sharpened posts driven into the bed of the stream at about a 45° angle, about six inches apart and spiked to a large pole anchored to trees or other posts near the stream's



edge. This practice necessitates removing accumulated trash after each freshet, otherwise sheep can walk up and jump over. Other troubles, such as rotten posts and washing out around the ends, occur. A better method is to use pressure-creosoted poles for support and put a top crossbar between the posts. For the slanted bars, 1 1/2 to two-inch galvanized pipes or small pressure-creosoted posts are durable. Bed the lower part of the slanted bars into a three-inch reinforced concrete bank and bottom



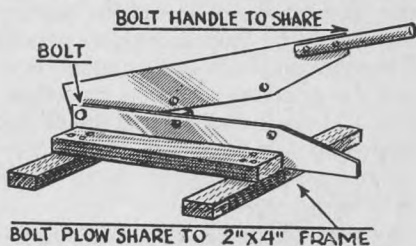
apron, to prevent cutting under or washing around, then lay a few broken concrete slabs under and below the gap to prevent backwashing from the falling water. If small wil-

lows are started where the banks are likely to wash and kept well-trimmed, the structure will be easier to keep up.

For smaller and deeper ditches, the hung type of water gate is useful. It swings upward with the rising water and lets floating trash slide under. Make these of creosoted timber. Bank and bottom concrete aprons are even more necessary to prevent cutting and washing. About the only attention needed after each freshet is to see that the trash does not prevent the gate from swinging back to its proper position.—I.W.D.

Heavy Duty Shears

Cutting asphalt roofing or shingles is difficult and disagreeable. I made a shear that will do the job well by bolting together two 14-inch plow



shares and bolting the lower share to a frame made of two-by-fours. This works well, though 16-inch shares might be a little better.—I.W.D.

Making Charcoal

You can make your own charcoal for burning in an outdoor fireplace. First make a pile of wood in the shape of a pyramid, then put lots of kindling below it. Set the kindling afire and cover the wood with earth, which restricts the draught and prevents the wood from burning.



Noiseless Gear

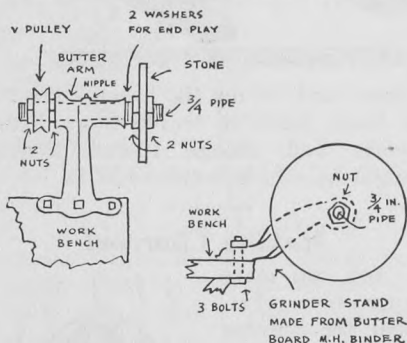
A gear drive in a western plant became so noisy that it was a serious annoyance to people working near it.



A noiseless pinion could have been installed, but instead the gear drive was converted into a belt drive by welding a flat band on the top of the gear teeth. The noise was eliminated and the belt drive takes care of the load with no difficulty.—W.F.S.

Home-made Bench Grinder

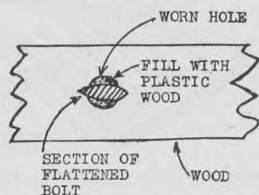
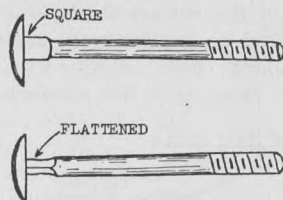
A stand for a bench grinder can be made on the arm of a binder butterboard. A $\frac{3}{4}$ -inch pipe is used for the axle through the centre of the casting and should be long enough to permit the mounting of a V-pulley on one end and the grinding wheel on the other. The oil hole in the casting should be tapped to take a grease nipple. For



general farm use, a wheel about six inches in diameter will be found to be most practical. The surface of the wheel should travel at from 4,000 to 6,000 feet per minute and never over 6,000 as there is danger of the wheel flying to pieces. Thus a six-inch wheel should be driven at about 2,500 to 3,000 revolutions per minute.—E. P.

Secure Bolt Heads

Bolt holes in wooden blocks frequently become worn to the point where they will not hold the carriage head from turning as the nut is screwed on or off. If the piece of wood cannot be replaced, it is a good stunt



to flatten out the square shoulder of the bolt head. This will make it spread out and when it is driven into the hole it will prevent the bolt from turning. For a more secure job, the enlarged hole in the wood may be filled with plastic wood.—W. F. S.

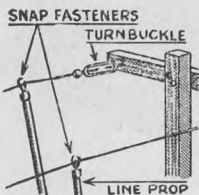
Making Clamps

Small clamps can be mass produced by using short sections of channel iron. Drill and tap one side of the "U" to take a clamping bolt. The bolts should be of an appropriate size for the iron used but their treatment will be the same. Cut off the head and bend the bolt near the head end to form a handle for tightening. File the threaded end of the bolt to form a short tenon. Place a cup washer over the tenon and peen it loosely to the bolt so it is free to turn. A number of these clamps should be made up in assorted sizes during spare hours around the shop.—J.R.E.



Keeping the Line Up

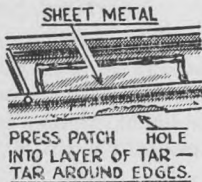
Nothing is quite so discouraging to a busy housewife as to have the clothesline prop slip out on a windy day and let the family wash flop around on the ground. I made a prop for each line with a pointed pole and two strong harness snaps, attaching one to the end of each prop. The



prop fastens to the line and the prop can be pushed out at the bottom until the clothes are on the line and then be put back in position. Friction tape around the line on each side of the snap will stop them from slipping lengthwise.—I.W.D.

Eave Trough Repair

Holes in eave troughs can be readily mended with a piece of sheet metal and a can of tar or asphalt. Bend the sheet metal to fit smoothly over the entire hole and spread the asphalt or tar over the area the patch will touch. Press the patch against it. To make the



job positively leak-proof apply more of the preparation around the edges of the patch. If you have no suitable sheet metal a piece of asphalt shingle or roofing will do.—W.F.S.

Preserving Gutters

Clean your galvanized roof gutters before they corrode, using a steel brush or steel wool. Scrub them clean, and when the gutter is dry apply hot asphalt or tar on the inside. This will prevent rust.—C.A.M.

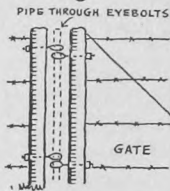
Saving On Oil Filters



Instead of buying a new cartridge for my oil cleaner each time it is dirty, I have saved a lot of money by reconditioning the old ones. To do this, the tin bottom is removed from the element with a can-opener and the dirty cotton waste discarded. The can is then washed out thoroughly, repacked with clean material and the bottom soldered in place. The reconditioned cartridge appears to be just as good as a new one.—F. N.

Strong Gate Hinge

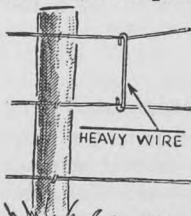
Strong hinges for a gate may be made on the farm if you have a set of heavy eye-bolts or a forge in which you can make them. I usually



use $\frac{3}{4}$ or one-inch rod, heat it in the forge and bend it around $1\frac{1}{4}$ or $1\frac{1}{2}$ -inch pipe to form the eyes. The straight ends of the bolts are then cut long enough to go through the posts and are threaded. I found that these hinges are very strong and will prevent even heavy gates from sagging.—J.R.E.

Spacing Fence Wires

In nailing fence wires to posts, there is always the problem of even spacing.

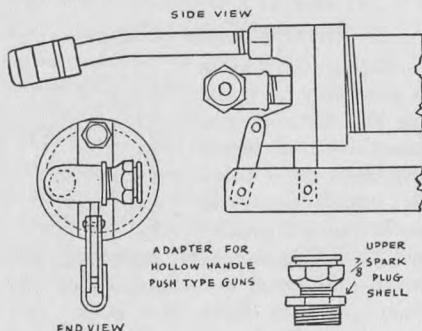


I have solved this by using a piece of hard wire bent at each end, so that the straight side is the exact distance of the wire spacing. I use this gadget between each pair of posts so that it is just tight when run along the wire.—C.R.

Grease Gun Filler

The track greasers supplied with track-type tractors hold 25 pounds of grease and can very easily be adapted to filling hollow-handle or lever-type guns. This is much more convenient, quicker and cleaner than filling from cans. The hollow-handle guns will take a $\frac{5}{16}$ -inch spark plug shell. It should be tapped to take the $\frac{5}{16}$ -inch grease nipple as shown and then the whole assembly screwed into the handle of the gun.

For the lever-type gun, it is preferable to drill a $\frac{27}{64}$ -inch hole in the head as shown by the small dotted circle in the end view. Tap the hole



with a $\frac{5}{16}$ -inch pipe tap and insert a $\frac{5}{16}$ -inch nipple, $1\frac{1}{2}$ inches long. On the end of the nipple tighten a 90-degree elbow and into this screw the grease nipple. This arrangement gives the fittings protection from the head of the gun and the pipe to the zero fitting. It also provides clearance for the adapter of the greaser when the gun is being filled.—D. L. T.

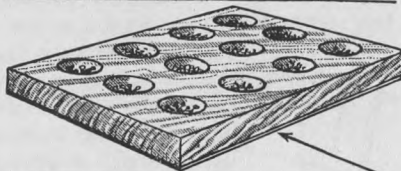
Polishing Compound

Many jobs of rust removal, polishing and fine grinding can best be done with homemade compound. Take the metal dust from under the grinding wheel and mix it with cup grease to form a paste. Apply it with a flannel cloth.—N.H.

Nail and Screw Storage

If bottles are not available for the storage of screw nails, small bolts,

DRILL $2\frac{1}{2}$ " HOLES IN SHORT LENGTH OF 10" OR 12" PLANK TO KEEP NAILS, ETC.

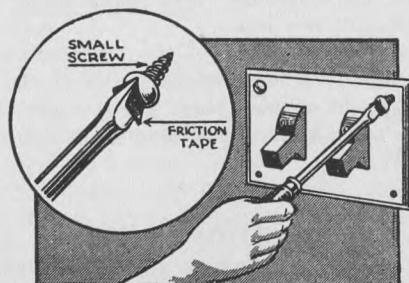


PIECE OF SHEET METAL FORMS BOTTOM

etc., put them in a drawer. The drawer can be made from a short piece of wide planking. Drill holes through it with an expansion bit—make them $2\frac{1}{2}$ inches in diameter. Tack a light piece of sheet metal to the bottom of the plank and put a handle on one side. This makes a shallow drawer which can be put on runners the same as any other drawer. If work is to be done at some distance from the bench, the drawer can be taken out and carried under one arm.—M.E.P.

Starting Small Screws

This method of inserting small screws is probably the handiest yet, since it requires no equipment except a bit of friction tape. Place the tape around the tip of the screw driver to



make a snug fit with the slot in the head of the screw—sufficiently tight to hold the screw until it is started in the hole.—W.F.S.

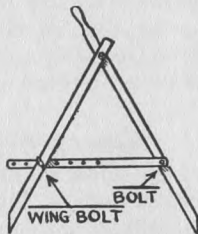
Cow Poke from Tire



This cow poke is easy to make and is very effective without hurting or bruising the animal. Cut an old car tire into two equal parts and cut a slit in the tread which is long enough to let the cow's head through. Place it on the cow's neck with the ends pointing forward. If it is too large for the animal, cut down the ends as required.—R.T.

Land Measure

A handy caliper for laying off plow lands or making quick measurements can be made as shown. It should be made from light wooden strips riveted at the top and with a center piece, preferably curved, with a large range of adjustments. In use the caliper is held near the top and swung over and over in a rolling motion so that the points touch the ground alternately.—A.B., Sask.

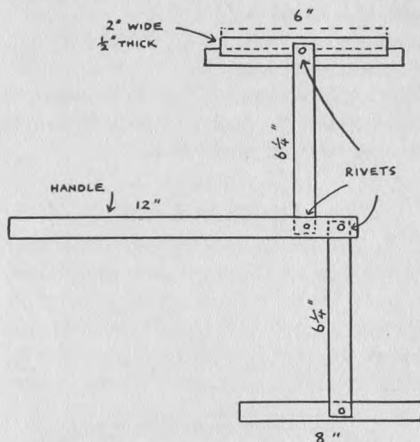


Hay Sling Convenience

We drive our sling team at the opposite end of the barn from the rack which is being unloaded. On windy days and even sometimes on calm days it is difficult for the driver to hear the shouts of the man on the rack. I put a bell at the corner of the barn near the sling team and ran the control wire to within reach of the fork setter. By jerking the wire he can signal once to stop, twice to start and three times to back up.—J.L.F.

For Tight Siding

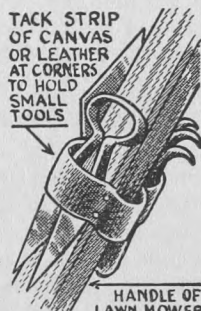
I have found this device very handy for pressing siding tightly together when building. All but one piece is of flat iron and only four rivets are required for it. By placing the upper



iron on the top of the loose piece of siding and the lower iron just underneath the siding which has been nailed firmly in place, the lever, when pressed down, holds the loose siding firmly in place while nailing. The device is small, convenient and makes for a tighter and better job.—C. B. D.

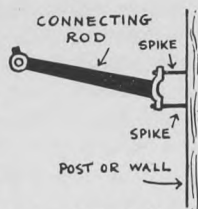
Keep Tools Handy

Tack a strip of canvas or leather around the four sides of your lawn mower handle, tacking at the corners and leaving a loop at each side. Into these loops insert the handles of small garden tools, such as hand pruner, weeder, trowel and knife. While mowing the lawn you can stop and dig out dandelions, trim shrubbery, or cut long grass along the walks.—I.W.D.



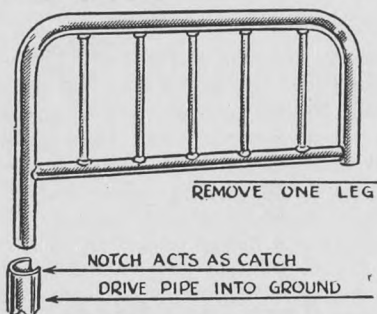
Harness Pegs

Strong, handy pegs for harness or other hung equipment, can be made from old, discarded car connecting rods. A couple of five-inch spikes through the bolt holes of the connecting rod will hold it firmly to any wall or post.—E.R.



Another Gate

You don't need to throw away that old single or three-quarter metal bed frame. Make an attractive gate of it for garden or lawn. Cut off one leg and insert the other in an iron pipe driven into the ground. Cut a notch in one



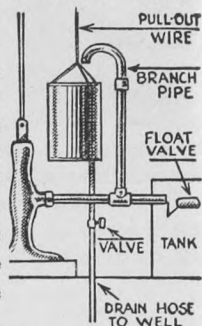
side of the pipe one-half inch deep so that when the gate is closed, the bed-end or gate will drop down in the notch and lock. To open, lift up. The head of the bed can be used to make a higher gate.—G.M.

Bulbs Rust in Sockets

I have trouble in removing burned-out bulbs from their sockets in the barn and other outbuildings where there is a lot of moisture. By putting a thin coating of grease or oil around the base of the bulb when it is first installed, I find that the rusting is stopped and changes are easily made when necessary.—E.E.N.

Windmill Control

An automatic control for the windmill in a distant pasture is shown in the diagram. A ten-gallon drum or milk can is hung from the windmill pull-out wire, and a curved branch pipe brought up from the tank supply pipe. This is done so that when the tank float valve closes, the pump will force water up and fill the tank, until the weight is enough to pull the mill out of the wind and stop it.



A valve and small hose in the bottom of the drum allows the drum to empty back into the well. This enables the drum to rise enough for the mill to swing back into the wind and start up again. The size of the tank and the speed at which the drum drains should be adjusted to suit the amount of livestock on pasture.—I.W.D.

Emergency Soldering

For quick soldering jobs the carbon center from a flashlight battery, two lengths of insulated wire and a wet cell battery will do. Sharpen one end of the carbon with a coarse file, wire the bare end of one of the wires around it, and connect the other end to one of the battery terminals.



With the other length of wire connect the other terminal to the job to be soldered. Using the carbon center as the soldering iron and using acid-core solder, proceed as with an ordinary soldering job. If a permanent kit is wanted, put the carbon center in a wooden handle and put clips on the wires.—J.E.H.

Digging Tool

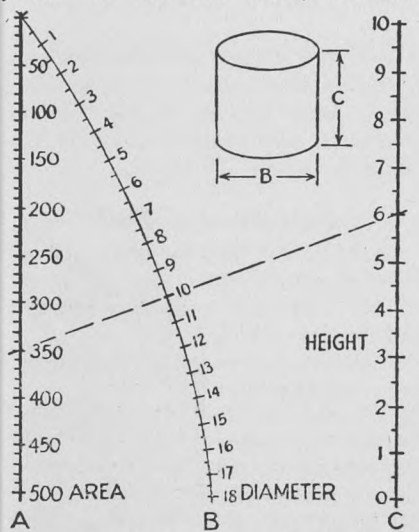
When there isn't room to swing a pick in the bottom of a ditch or well,



don't try to swing one. The same work can be done much more easily by removing the handle from the pick and placing one end of the head in a short pipe. Jam the two together and use the tool like a crowbar. With this improved pick it is possible to work in almost any corner or confined space.—W.F.S.

Farm Tank Chart

Here is a handy chart for calculating the area of any cylindrical object, including the area of the two flat ends. The proving line from 1 to 18 can be used for any unit of measurement—

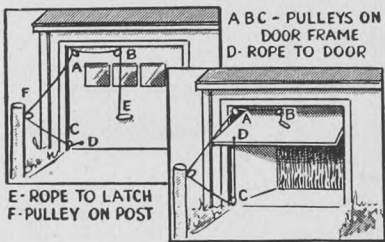


accurately the height and length of the cylindrical tank or other object. Then, assuming that the diameter B is ten inches and the height C is six

inches, draw a line from the figure 6 on column C through the figure 10 on the curved line B over to column A, where the answer will be read as 350 square inches. On the other hand, if the height was ten feet and the diameter eight feet, a line from the figure 10, column C, through the figure 8 on column B would give the area on column A as 350 square feet.—W.F.S.

Door Opener

To open the overhead door of my garage from the seat of the car, I set in a post near the driveway where I



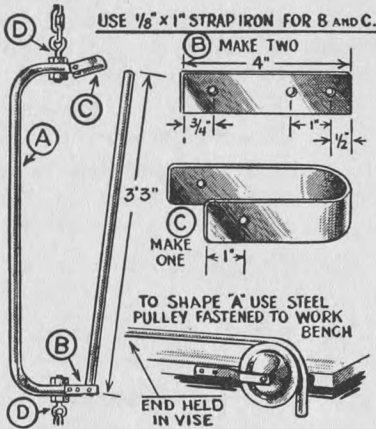
can reach it from the seat of the car. I put a pulley on the post, one in the top center of the door frame, and one on both the upper and lower corners of the door frame. I fastened a rope through the pulleys to the door as shown in the illustration. With this arrangement it is possible to either open or close the door from the car.—I.W.D.

Cleaning Out the Drill

When I am seeding high-priced grass seed with a grass seeder attachment on the drill, sometimes there is a little left in the drill when the field is finished. It is almost impossible to get this out by hand, so I use the vacuum cleaner, first cleaning the bag thoroughly and then sucking the seed out with the cleaner. This works very well, and now that clover and grass seeds are high in price it is worth while economically.—I.W.D.

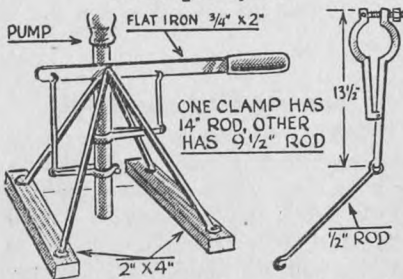
Cattle Stanchions

Equipment needed to make a stanchion is an eight-foot length of pipe. Cut one piece three feet, three inches and the other four feet, nine inches; also get four bolts, three spikes, and two lengths of chain. Heat the



long piece of pipe and bend it around a pulley as shown in the illustration. The bent pipe should look like A. Now make a strap-iron hinge and latch like B and C. Cut off the bolt heads and make four eye-bolts like D. Assemble the stanchion, using pins made from heavy spikes.—Wm. M., Sask.

Pump Lifter



Here is a pump lifter which can be made out of scrap iron to be found on most farms. It will work on any size of pipe. The frame is made of half-inch brace rods set on two by four's. The lever is a heavy flat iron, two inches

by three-quarter inch. The holes in which the jaws are put are 20 inches apart and ten inches each way from the fulcrum. The jaws are made from three-quarter inch square iron and the bolt is three-quarter inch and threaded, while the rods are half-inch material. When the jack is in action, the handle is moved up and down, and with this action the jaws grip and lift alternately. To lower the pipe, move the handle up and down while someone else raises the jaws one at a time.—I.W.C.

Holding Fence Posts Down

It is difficult to prevent fence posts from heaving when set in boggy land wet enough that ice can form around them in winter. The first precaution is to use nothing but pressure-cresoted posts, if these can be obtained. An anchor will be necessary for corner posts and this may be a buried "dead man," connected near the top of the post, or an old disk-blade anchor. Ordinary fence posts can be sharpened and set extra deep so that they can be driven back if they lift. They can also be notched or spiked at the bottom, and a large pail of heavy concrete poured in and tamped down before filling the hole.—I.W.D.

Calf Feeder Pail

An old bucket with the bail removed, together with a spring and a T-hinge, are all that are needed to make a calf feeder which will keep the calves from tipping over the bucket while feeding. The bucket is fastened to the bottom board with the hinge, and the spring runs from the pail to the upright. The bucket must be large enough so that the feed pail can be set inside it.—A.B.



Oyster Shell Feeder

A discarded anti-freeze can will make a useful oyster shell self-feeder. Cut a piece off at the top, fold the edges so they will not be sharp, cut a 1½-inch slot at the bottom, and solder in the piece you cut away.—W.L., Sask.

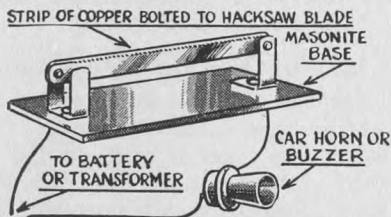


Egg Basket

I gather eggs several times each day and hate to be bothered carrying them to the house each time. Instead, I hang horse-type wire nose bags from the ceiling at convenient intervals in front of the row of nests. A few eggs are put in each basket at each gathering and there they cool quickly and keep clean. At the end of the day I gather the baskets and take them to the house.—J.S.

Brooder House Alarm

A few scraps of material around the workshop can be combined to make a system for warning you if the brooder house stove goes out, or gets too hot. Bolt an L-and-a-U-shaped bracket to a piece of masonite, or

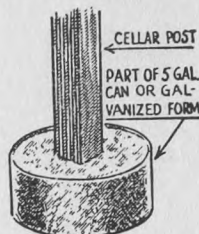


insulated fibre board, as shown. Cut seven inches off an old hacksaw blade and match it with a similar piece of copper or aluminum. Rivet the strips together at one end and bolt the other end to the "L" bracket, spacing the riveted end between the arms of the "U." Connect this to a car horn

or a buzzer; a six-volt battery, or hot shot, or, if there is hydro on the farm, a door bell transformer, will supply the necessary current. The temperature range can be altered by bending the arms of the "U" bracket.—J.E.H., Alta.

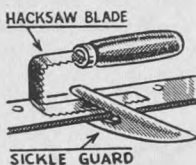
Butt Cement Forms

Sometimes the removal of butt cement forms for cellar posts is difficult. This can be made easy by using tin or galvanized iron. Make the diameter according to the size of the post, and leave the form in when the basement floor is poured.—R.K.W.



Cleaning Guards

A handy tool for cleaning mower or binder sickle guards can be made, as shown, from an old hacksaw blade and a handle. If no handle is available wrap friction tape around the blade. In use, the blade is worked back and forth in the guard slot to remove lodged or caked material.—A.B., Sask.



Loading Hogs Blind

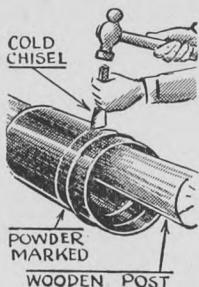
Hogs can be mighty stubborn about going where they don't want to go. I have found that if I take an ordinary pail and put it over the hog's head he will back up a loader into a truck or sleigh.—J.A.G.



Cutting Stovepipe

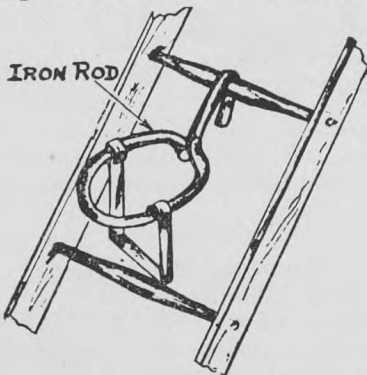
When I wish to cut a down-spout, stovepipe, tin can or other thin metal cylinder, I slip it over a post or pole held in a vise, and mark around it with a string or rubber band dipped in flour, lime or other white material, and snapped at two or three places. Then I cut it out with an old chisel, a sharp cold chisel, or even an old butcher knife struck on the back of the blade with a hammer. It works well and can be used for square chutes by cutting on a square timber.

—I.W.D.



Paint Can Holder

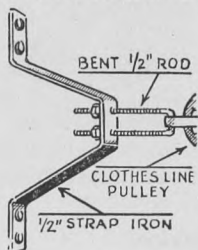
A seven-sixteenth-inch rod, 44 inches long can be bent to form a loop of the proper size to let the paint can slide through easily. A piece of strap iron should be used to make the



bottom and prevent the can from falling through entirely. The hook on the loop should be long enough to allow the can to touch the second rung of the ladder and sit in an upright position. With this arrangement, the paint is always conveniently placed for dipping the brush.—G.F.

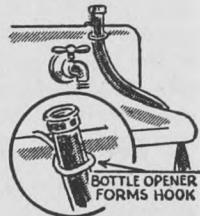
Clothes Line Tightener

Housewives complain about slack clothes lines and no ready means of tightening them. Bend a piece of strap iron 30 inches long, two inches wide and a half-inch thick, to the shape shown in the sketch. Drill half-inch holes to attach it to the building. Next drill half-inch holes for a 20-inch threaded U-shaped rod. Grease the rod and nuts, or use a rust-preventive, to keep the threads from rusting in the hole, and tighten with nuts as desired.—A.P.



Wire Hose Hanger

A wire bottle cap opener makes a handy hook for hanging short lengths of hose. The notches on the opener prevent slipping and the opening is large enough to slide over the end of the hose with ease. This is most useful around the laundry tubs and by the tap for the garden hose.—T.C.

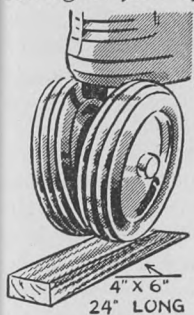


Moving Tractors On Roads

Here is an idea I find very helpful when I need to drive a tractor with lugs on an oiled or surfaced road or street. I have cut the bead strips off some discarded tractor tires, so I can pry them over the lugs. This can usually be done with an iron bar just like putting a tire on a car rim. This is also helpful when using lugs on a lawn or in soft earth in the spring of the year. Hence I keep these old casings especially for the purpose.—J. H. R.

Tractor Tire Changer

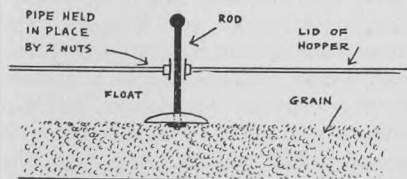
We use this handy idea for changing a flat tire on a row-crop tractor without having to jack up the front end. A



block at an angle of 45 degrees or more, it will not slide ahead when the tractor is driven on.—I.W.D.

Grain-Box Gauge

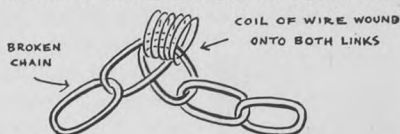
A floating gauge, such as is shown in the drawing, saves stopping the outfit to check the supply of seed and is also valuable when setting the rate of seeding. The top of the seed box is drilled to take a $\frac{1}{2}$ -inch nipple, two inches long. The nipple is fastened in place with one nut above and one below. The float itself can be made from a piece of wood about four inches in diameter, rounded at the top. The $\frac{1}{4}$ -inch rod, slightly longer than the depth of the box, is fastened to the float. Determine the capacity of the box and fill it $\frac{1}{4}$ full; mark the rod at this point, then similarly for $\frac{1}{2}$ full and $\frac{3}{4}$ full. With this as a gauge, it is



not necessary to use a box full of grain to find out what rate you are seeding.—M. E. P.

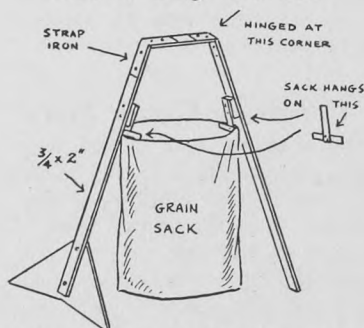
Emergency Chain Repairs

An emergency link for a chain can be made very easily by winding about six turns of wire around a screwdriver handle or other handle of about one-



inch diameter. Hold the two links to be joined so that one end of the spiral can be threaded through them both, then continue to twist the spiral of wire until it is all in the links. It is not necessary to fasten the ends of the wire as they will not slip after the loop has been pulled into an oval shape. If a ready-made coil is carried in the tool box, repairs can be made more quickly.—P. R. W.

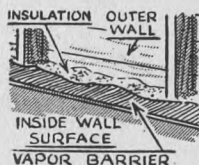
Grain Bag Holder



A handy little holder for grain bags will take the place of a man when bagging seed, chop or feed. The legs of the stand are one by two-inch boards, one side being braced to prevent the stand from falling over sideways. The other leg is hinged to the top cross piece so the holder can be adjusted for height. The hooks for the bag are made of strap iron about five inches long and are mounted on blocks to give clearance for the bag. The hinge may be an ordinary door hinge or may be made in the shop.—E. L. M.

Vapor Barrier

When insulating a poultry house or other building, not everyone knows where to put the tar paper or other vapor barrier to prevent the moisture from working into the insulation and

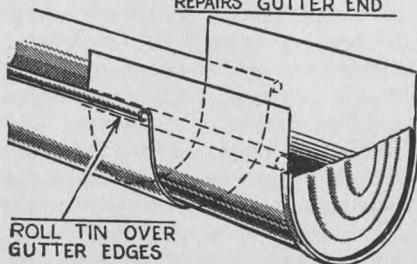


destroying its effectiveness. In homes, poultry and hog houses, stables and other livestock shelters, the inside air is warm and contains excess moisture, which tends to condense as soon as it strikes the cooler air in the insulation. In all such cases, therefore, the vapor barrier ought to be placed between the insulation and the inside air. It is usual to put it on the inside of the studding, and then protect it from mechanical damage by matched sheathing of some kind. If the outside siding is rain and snow proof there is no danger from outside moisture.—I.W.D.

Repairing Gutter Ends

The simplest and easiest way to repair gutter ends is to use discarded cans which are slightly smaller in diameter than the gutter itself. Cut out part of the side of each can as shown. Fit it into position and make it leak-proof with solder or with roofing

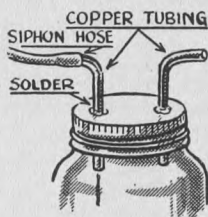
OLD TIN CAN CUT OPEN
REPAIRS GUTTER END



cement. The sides of the can should be bent back over the sides of the gutter to form a neat joint.—H.E.F.

A Siphon Starter

If you have occasion to siphon liquids and wish to avoid swallowing any of the liquid by accident, you can do so by using this simple device. It is only a quart jar with two short sections of copper

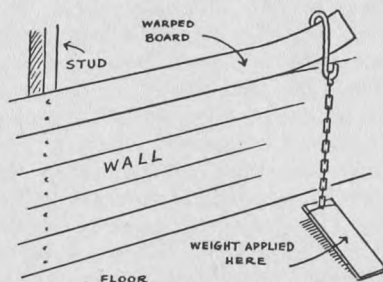


tubing soldered to its air-tight lid. Make sure that these joints are air-tight as well. When using, hold the jar below the level of the liquid

to be siphoned and drop the rubber tubing into the latter. Now pinch the hose with your fingers, and simply suck out all the air inside the jar. Quickly release the fingers, and the liquid will start flowing into the container. Slip the hose off the copper tubing, and simply let the liquid flow.—H.E.F.

Handling Warped Siding

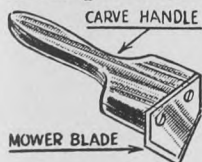
Warped lumber is particularly hard to handle when one man is working



alone. A gadget made from a short plank, a rod or hook and a light chain will make the job much easier. The chain can be fastened to the plank with a bolt, a large spike or a piece of wire. To use this device, nail the straight part of the board in place as far as it fits properly, then put the hook over the part that is raised up and stand on the short plank while the balance of the board is nailed in place.—M. E. P.

Handy Garden Weeder

I have used this handy garden weeder for many years, to hoe up close to the plants in the row. A piece of **CARVE HANDLE** inch board eight inches long, and the width of a mower section, was used. Leave the head at one end the width and size of the mower section, and whittle the other down to a nice round handle. Fasten the mower section onto the head with two screws and you have a weeder that is very convenient.—I.W.D.



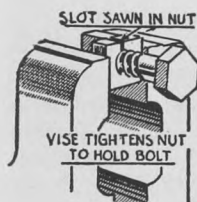
A Painting Tip

When painting woodwork, coat the hinges, doors, knobs and panes of glass or other parts you want to keep clean with vaseline or heavy grease. When the job has been completed the protecting coat can be wiped off and will take any paint with it. Masking tape can be used for the same purpose but takes more time to apply.—C.N.D.



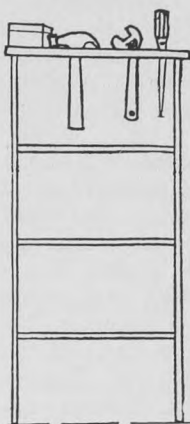
Clamping Bolts

Occasionally it is necessary to hold the threads of a bolt in the vise. To prevent damage to them, saw a slot in a nut and thread the nut on the bolt. When the vise is tightened on the nut, the slot causes it to close tightly on the threads. This holds them firmly without damage and permits cutting, filing, etc., without turning.—A.B.



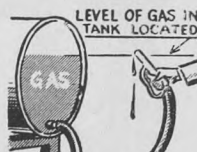
Step Ladder Conveniences

Many trips up and down a step ladder may be avoided if the tools and materials usually used when on the ladder are kept within reach. This is possible if holders are made for the screw driver, hammer, pliers and a wrench or paint brush by drilling holes in the top step. Small materials such as screws, brads and tape should be put in a box which is then securely fastened so that it can not fall off while the ladder is being moved. If possible, have a lid for the box with a fastener which is secure.—W. F. S.



Simple Gas Gauge

For a simple gas tank gauge, hold the filler hose higher than the top of the tank, open the valve, and lower the hose until the gasoline starts to run. The level in the hose and in the tank will then be the same.—I.W.D.



Laying Linoleum

In laying linoleum it is desirable, especially with the better grades, to make a perfect joint where freshly cut edges come together. A jointer, or block plane, used along the edge will give the desired result. Lift the edge of the linoleum, plane lightly, and fit until the joint is perfect.—E.G.H.



Marker For Transplanting

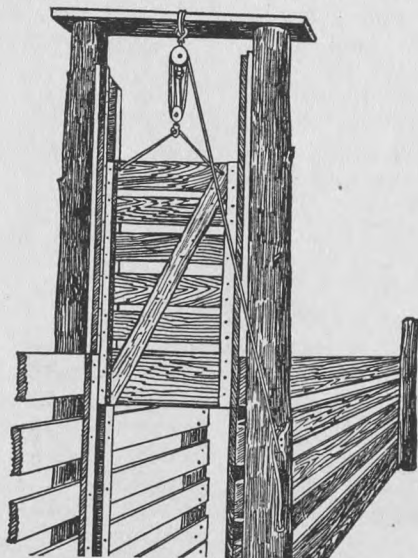


This spacer is handy in transplanting tomatoes, cabbage, onion sets, etc., as it leaves evenly-spaced marks as it is pushed along the row. The wheel is made by sawing out a disc from a board two inches

thick and 12 inches in diameter. The holes are spaced on the rim of the wheel according to the distance desired between plants. Wooden pegs are driven into the holes in the block and a handle bolted on as shown in the drawing.—H. M. C.

Drop Gate

A drop gate is the safest type for a cattle chute or corral since it takes less space and cannot be pushed back



by the animals. The main timbers should be at least six-by-six inches and 14 feet long. Treat the bottoms or

set them in concrete, making sure that they are parallel. Nail on a solid cross-piece at the top. Build the gate at least five feet high and half an inch narrower than the distance between the posts. Fasten twisted wires or light cable to the top of the gate and spike the guides in place allowing half an inch of play. Use two-by-four-inch material for the bottom five feet and lighter guides at the top. Hang the pulleys from the cross-piece and put a snubber for the rope on one of the posts. The gate is heavy enough to drop quickly when released.—R.J.R.

Chop Bin Door

Grain and chop will be much easier to get at if the opening in the barn is boarded over as shown. The "hood" slants down over the opening to allow dipping out at a convenient level, even when the bin is full. For whole grain, extend the bottom of the hood down to the level of the bottom of the doorway. For chopped grain the bottom of the hood should be about six inches higher. The doorway can be made the width of the space between studs and should be about square.—E.H.



Handy Picnic Stove

A brick which has been soaked in kerosene for a couple of days and placed in a closed pail will come in handy on a picnic or hunting trip. It will burn slowly for quite a long time for heating coffee, or can be used for starting a camp fire. Put



SOAK BRICK IN KEROSENE FOR HANDY CAMP STOVE

earth or sand on the brick to quench the fire.—C.A.M.

Garden Tool Rack

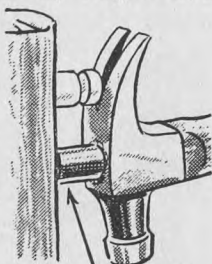


NAILS IN BARREL
HOLD SMALL TOOLS

An attractive rack for garden tools can be made from an old wooden barrel. Large tools can be placed in the barrel and small ones on the hooks screwed into the staves. If all tools are replaced after being used, time and temper are spared. Bright painting will make the rack attractive too.—A.T.K.

Pulling Insulator Nails

Where an electric fence is used, it saves time and trouble if one keeps a box or tray for carrying the hammer, pliers, insulators, nails, staples and other tools and supplies needed. When not in use, it should be kept in a dry place. I got tired of carrying two or three extra tools for pulling out the double-headed type of insulator nails, and welded a short piece of pipe on a hammer head and used it as shown in the illustration. This works very well, and does not interfere with driving insulator nails or fence staples.—I.W.D.



WELD 2" OF PIPE TO
HAMMER HEAD

Glazier Brads



Glazier brads can be made quite readily from a strip of sheet metal about $\frac{1}{4}$ -inch wide. Cut them off with tin snips, as shown.—E.S.

Corner Post Repair

I used this idea to make a quick repair of a corner post which had given away when the remainder of the fence was in very good condition. I dug the hole for the new corner post as close as possible to that of the old one, and the new post was flattened a little bit so that the old one would not slide back. Then the old post was chained or wired to the new one at the bottom, and the top pulled over with the tractor, or fence stretcher and fastened tightly to the new one. Then both new braces and brace wires were put in, and tightened in good shape, so that when completed it made a neat job.—R.W.D.

STRAIGHTEN
OLD POST,
SECURELY
FASTEN TO
NEW POST



Safe Sand Box



CUT TRACTOR TIRE IN
HALF-FILL WITH SAND

You can make a nice play pen from an old tractor-tire casing by cutting one side off and filling the tire with sand. A child is in no danger of picking up slivers when climbing in or out.—J.K.W.

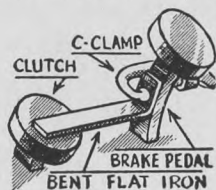
Paint Brush Hanger

Your idea of running a wire across the top of the paint can is a good one. It can be used for more than a brush scraper though. I screwed a small cup hanger or screw hook into the ferrule of the brush and can hang the brush by placing this hook over the wire. The latter prevents standing the bristles on the bottom of the can and is most convenient.—H.M.C.



Clamped Pedal

When the clutch on my car needed adjustment and no one was available to keep the pedal depressed while I was working on it, I solved the problem by using a

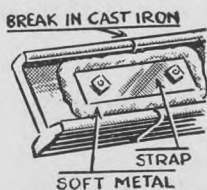


length of flat iron and a C-clamp. After first bending the iron at right angles, the clutch pedal was pushed down and

clamped securely to the brake pedal by means of the C-clamp. This held the pedal where needed, while I made the adjustment. If your car is a late model and is minus a clutch pedal, and if the brake needs fixing, simply clamp the bent metal piece to the post of the steering wheel.—H.E.S.

Mending Casting Breaks

To temporarily mend a break in cast metals or farm machinery, lead, babbitt or other soft materials can be used. Drawing shows a cast iron machine lever of I-beam shape, which was repaired by placing the lever so that the broken ends fitted together as



they were before the break occurred. A wrought-iron strap was then laid in the flat space between the flanges, and

at the end, dams were built of putty. Babbitt metal was then poured around the strap, and the metal also rolled into the crack between the strap and the casting and filled the space so completely that the fit between the strap and cast iron was just about perfect. The lever was then turned around, and the same operation repeated on the other side. Bolt holes were then drilled through both straps and the cast iron center, without any

distortion, so that when the bolts were inserted and the nuts tightened, nothing was out of alignment. Where straps alone are used, without soft metal filler, not only is a good fit difficult, if not impossible, but parts are usually thrown out of alignment.—W.F.S.

Key-Ring Screwdriver

If you want to be sure you will always have a small, handy screwdriver with



you wherever you go, you can file a screwdriver edge on an old car key. Carry it with you on your key ring, along with the keys you regularly use, and you will always be ready.—I.S.B.

Safer Tire Changing

To change a flat tire I use the bumper jack to lift the corner of the car high enough to allow me to slip a



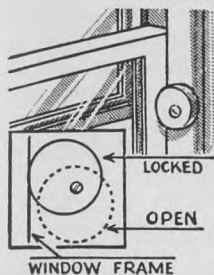
small hydraulic or screw jack under the axle. This jack starts to lift the wheel at once and leaves the weight on the other wheel, instead of lifting the whole end of the car the way a bumper jack does. There is much less danger of the car falling over with the jack, about the time you have taken the wheel off.—I.D.

Better Hay Hook

To make a handy bale hook, I welded a six-inch cross member onto a half-inch rod and bent the rod around to form a bale hook. I then welded a mower section to the back to use for cutting the bale ties.—I.W.D.



Window Stop

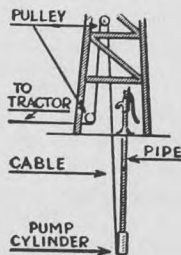


It is easy to make an efficient stop for holding windows in any position. All that is needed is a hardwood disk with a hole drilled through it, slightly off center.

Fasten the disk to the window frame, as illustrated, by a screw through the hole. Then, turning the disk one way or the other either frees it, or jams it against the sash.—A.B., Sask.

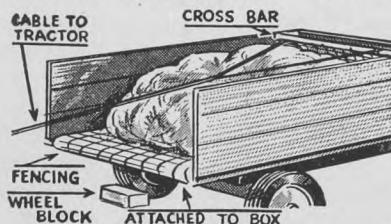
Lifting the Pump

To lift the pump cylinder and pipe out of the well we fasten a steel cable below the cylinder, up through a pulley near the top of the windmill tower, and down through another pulley near the ground, where it can be hooked to the tractor. By leaving this cable in the well all the time the pipe and cylinder can be lifted in a few minutes. I.W.



Unloads Silage

Hog fencing can be used for unloading chopped silage, or hay, into a trench silo. Bolt a stout cross-bar at



each end of an 18 or 20-foot length of fencing, fasten one end at the rear

of the trailer box bottom, carry the fencing forward and up to the top of the front end gate. To unload, back the trailer up to a pole fastened near the edge of the trench silo, hook a cable at the middle of the cross-bar at the front of the load, and carry it over the load to a tractor on the far side of the silo. It may be necessary to tie the front of the bed of the trailer down to a stake to keep it from rolling off, unless the sides of the trailer have considerable outward flare.—I.D.

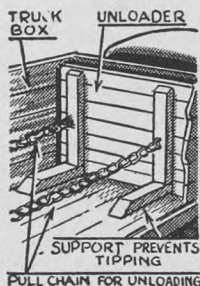
Lifting Wagon Front

When I want to unload a box of corn I lift the front end of the load with my hydraulic manure loader. I can lift the load as slowly and as high as I wish. It should work well for other crops, too.—I.W.D.



Unloading Device

When hauling to a pile or filling a washout this is a simple way to unload dirt, trash or manure from a pick-up truck. The one I made is the width of the truck box and before loading stands upright at the front of the box with the chain extended to the rear. To unload, hook the chain to a stake or tractor, and drive the truck ahead. The material is automatically unloaded. Short pieces of two-by-four lengthwise of the bed, and used as sliding feet for the unloader, would help prevent it from tipping backward or forward during unloading.—I.W.D.



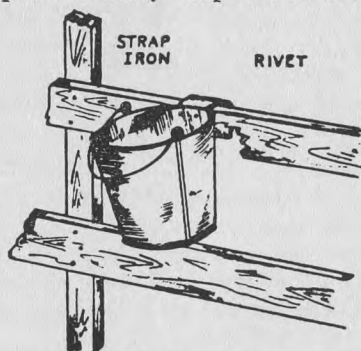
Oil Can Holder for Machine



This is the way we fix a holder to carry an oil can on a tractor or other machine. A strip is cut, about one inch wide, from the side of an old tin can, and bolted to some convenient part of the machine. The oiler can be set in this can with the handle sticking out of the slot, so that it can be easily reached.—P.E.H.

Handy Calf Pail

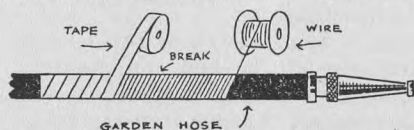
For feeding calves, I use the device drawn here. It consists of a pail with a piece of heavy strap iron riveted to



the rim and bent over one of the boards of the pen. The calves can drink their milk without spilling it and later it can be used for meal and chop.—G.T.N.

Repairing Garden Hose

This is an easy, efficient system I use to repair broken or leaky garden

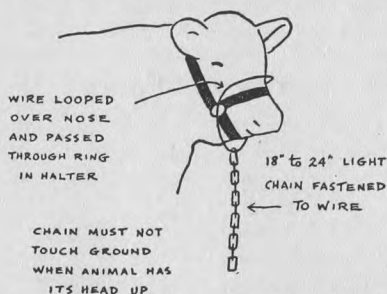


hose. The weakened part is first wrapped as tightly as possible with fine

wire. This tends to compress the rubber or canvas and close to the holes; it also strengthens the section. Tape is then wrapped over the wire to hold it in place and completely seals the breaks. One layer of rubber tape and one of friction tape makes the best combination.—H.M.S.

Electric Fence Aid

Cattle will sometimes start jumping over electric fences. This may be stopped by hanging a short chain from the halter of the offender. Run hay wire



over the nose of the cow, through the two rings on the sides of the halter and use this to carry the chain. Leave enough slack in the wire to allow the cow to eat and part the hair so the wire makes close contact with the skin. After three or four days with the chain, the cow should be "educated" not to jump the electric fence.—A.C.W.

Paint Brush Storage

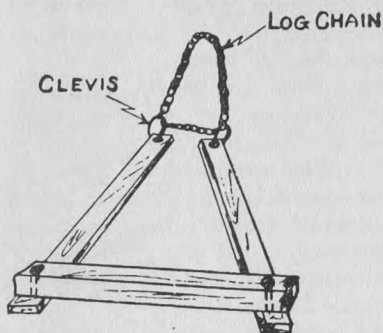
Paint brushes should be kept in turpentine or solvent if they have any paint in them, but they should not be left standing on their bristles. To accomplish



this, drill a small hole through each handle low enough to keep the bristles off the bottom. A stiff wire through the hole will act as a hanger. The turpentine, paint remover or oil should cover the bristles.—J.J.F.

Rock Mover

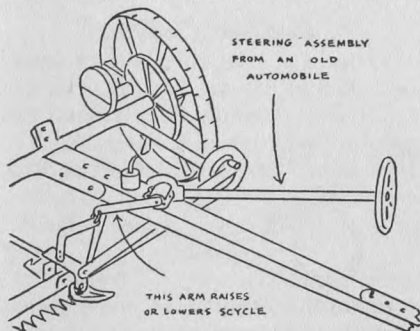
This device can be used to pull away large rocks if they are sufficiently



raised out of the ground. It consists of three four by six-inch pieces, each four feet long, bolted together at the back with five-eighth inch bolts. The chain is slipped through the two heavy clevises on the front ends of the side pieces. It is advisable to reinforce the back corners with light angle iron straps or buggy tires. When the side arms are placed to straddle the rock the chain is tightened and tends to lift the rock as it pulls.—J.R.K.

Control For Tractor Mower

This idea makes it easy to convert a horse-drawn mower to a one-man tractor mower. An old automobile steering mechanism is mounted on the stub tongue of the mower with the



steering arm connected to the inner shoe. This will raise and lower the

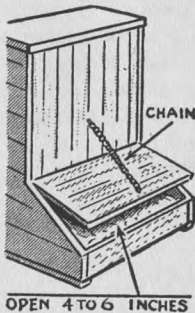
cutter-bar as the wheel is turned by the operator. It is necessary to brace the steering column near the wheel with a brace to the tongue. The brace holds the wheel solidly in a position where the operator can reach it easily from the seat of the tractor.—A.A.

Chisel Shock Absorber

You can avoid much of the shock from the use of star or cold chisels by using an old bicycle handle grip. Cut the round knob off the end, slip it over the handle of the chisel, leaving about a half-inch of chisel protruding above the grip.—R.K.W.



Feeder for Small Pigs



This idea occurred to me one day when I saw small pigs trying to eat from the self-feeder. I attached a light chain to one of the feeder doors as shown and then to the top of the feeder and adjusted it so that the door would be open from four to six inches. Pigs will soon learn to open it by themselves. It doesn't interfere with the sow because she will open it anyway.—I.W.D.

Jacking-up Tip

When renewing a post that carries much weight under a building, it is better to insert a wedge between the top of the post and the timber above. A wedge can be driven in later, to allow for shrinkage of the post, or possible settling.—E.G.H.

Make Sliding Doors Slide

If the stake at the bottom of a sliding door is snug, there may be friction which will make it hard to move the door. I cut a three-inch piece of pipe and slipped it over the stake, first coating the stake and pipe with thin grease. This acts as a roller bearing so that the door slides back and forth very easily.—I.W.

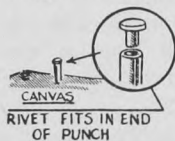


Protect Garage Floor

I protect my garage floor from becoming soaked with oil and grease by using large pieces of insulation or wall-board, sheathing paper, roofing or large sheets of corrugated pasteboard. Sometimes large pieces of these materials are left over after construction jobs and can be used to keep the garage floor clean under the parts of the car which drip oil. When they become oil soaked and discarded, they make good fuel for the fireplace, or outdoor stove.—I.W.D.

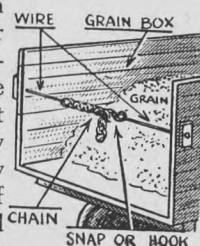
Canvas Repair Tool

It only takes a few minutes to make a hollow canvas awl from medium-weight sheet metal but it saves a lot of time in placing rivets. When several layers of canvas are to be riveted together, insert the rivet in the hollow end of the punch. Push the tool through the material and without even turning the canvas over, the rivet will take its place for the burr. Tubular punches are sometimes available factory-made, but homemade punches can be just as useful.—J.M.



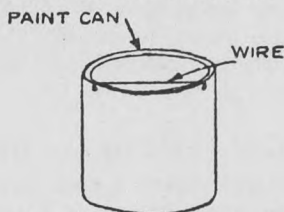
To Hold Grain Pressure

Here is a sketch of a handy way to hold a bin or a wagon or truck box, against grain pressure. I use a piece of twisted wire, or light chain, fastened through each wall of the bin or wagon box and having a short piece of heavier chain at the middle. By fastening a heavy wire to the end of the other wire, and having a large snap or a small log chain hook on the end, this can be snapped into the proper chain link to hold the walls without spreading.—I.W.D.



Paint Brush Wiper

To keep paint from running down the outside of the can after scraping off excess from the brush, tie a wire



across the mouth. When the brush is drawn against the wire, the paint drips back into the pail.—A.B.L.

Proper Coiling

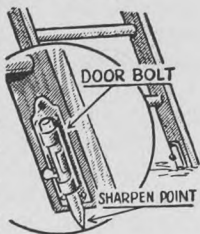
Lengths of hose, rope or wire should be coiled to prevent kinking. This can be done by winding them around two cans in the shape of a figure "8." The turn at one can is to the left and the



turn at the other is to the right so that the two tend to neutralize each other and keep the length straight when it is unwound.

Ladder Doesn't Slip

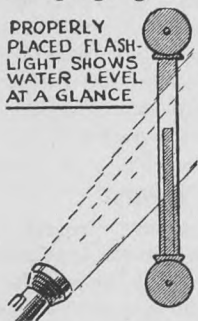
To keep an extension ladder from slipping on the ground, fasten a bolt on the inside of the risers at the bottom of the ladder. If necessary, the end of the bolt can be ground to a point, so that it will dig into sod, gravel, or hard ground. This little remedy is inexpensive, easy to install and may prevent serious accidents.—A.P.



Water Level in Gauge Glass

If you have difficulty in locating the water level in the gauge glass, a flashlight located below and to one side of the gauge glass will solve the difficulty.

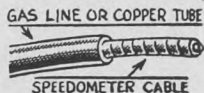
**PROPERLY
PLACED FLASH-
LIGHT SHOWS
WATER LEVEL
AT A GLANCE**



First direct the light against the glass from about this position, and then move it around until you get the best result. In the right position the light from the flash will make the water line stand out distinctly, as a band of light. After locating the best position the flashlight may be fastened permanently, and one will only need to turn on the light as desired.—W.F.S.

Rebending Gas Lines

Sometimes it is desirable to re-bend a gas line, but it is often difficult to do so without crimping the line. Rebending will be successful, without crimping, if an old speedometer cable is first inserted in the gas line pipe as indicated.—J.C.



Poultry Water Stand

A stand to hold the poultry water pail can be made from an old harrow cart. Cut out the hub and bend four of the spokes upward around the pail. This will prevent it from tipping over.—J.C.



Calf Feeding

To eliminate the tedious chore of holding the pail for calves, suspend the pail by a rope from the ceiling. A snap on the end of the rope makes it easy to hang or remove the pail. When the calves have finished drinking they will play with the pails for a while; this eliminates a lot of the molesting they commonly inflict on each other.—H.H.



Screwdriver Night Gadget

It is irritating to use a screwdriver at night when one cannot see well. The same is true when using an oil can. I fastened a very small sized flashlamp to the shank of a screwdriver and the spout of an oil can. Now it is possible to see the screw slot, or the oil hole without difficulty.—W.F.S.



Cleaning Old Files

Sometimes old files are blocked with dirt or iron particles so that they are more or less useless. An easy way to clean them is to soak them in gasoline for a time, and then rub across with a wire brush.—A.P.

Gasoline Pail

FLEXIBLE HOSE SOLDERED
TO CAP OF FUEL CAN



I made this can for use in filling the tractor fuel tank but find that it is just as useful for filling up the car. It is handier than a funnel and is less likely to cause spilling or contamination from dirt. I used a five-gallon can with a screw top, cut a hole near the side and soldered on a 14-inch piece of flexible hose. The hose should be at least one inch in diameter. —H.N.

Sow Trainer

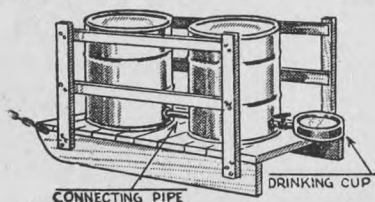
Some sows and hogs seem to lack respect for electric fences. Once they have formed the habit of going through the fences, no changes in the current or type of fence used seem to have any effect. I made a halter out of car tire chains and left one cross chain dragging. It makes good contact with the fence wire and the sow gets an extra shock which she soon learns to keep away from. —W.W.L.

OLD
TIRE CHAINS



Movable Hog Waterer

I built this waterer because the hog pens were about one-half mile from the house and well. The runners and



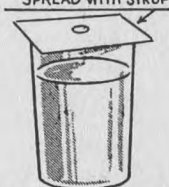
cross pieces were made of two-by-six-inch planking and the cage of one-inch stuff. All were heavily creosoted after being cut to size. The pipes con-

necting the barrels are $\frac{3}{4}$ -inch, with a shut-off valve which can be closed if necessary. The drinking cup is commercially made and was purchased in a local hardware store. It allows the hogs to drink all the water they want without wasting it. The barrels can be of any size but will need covers to prevent the water from slopping out during transportation.—A.W.P.

Fly Catcher

To make a small fly catcher, cut a piece of cardboard about five inches square. Make a hole in the center about the size of a nickel. Spread some sweets (syrup preferred) around the hole and place the sheet upside down over a glass of soapy water. When some flies have accumulated on the underside of the cardboard, tap it lightly, knocking them into the water.—J.A.J.

BOTTOM OF CARDBOARD
SPREAD WITH SYRUP



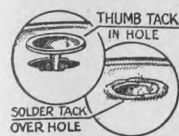
GLASS OF SOAPY WATER

Saw Leg Board

Most tilt tables on saws present a sharp edge against which the operator is expected to push with his leg. No wonder, then, that the man who feeds the saw soon complains of a sore spot on his leg. The obstacle can be removed by using a few bolts, a pair of hinges and a one-inch board about 10 inches long and eight inches wide. Fasten the strap ends of the hinges to the board, placing them near the ends. Bolt the butts to the frame of the saw table to hold the top of the board from two to three inches above the top of the table. It can be located along the table to suit the man who is feeding the saw, but will not be in the way of the logs.—M.E.P.



Soldering Patches



Very small holes in pails or cans can be filled with solder. When the holes are a bit bigger a patch must be used; the

simplest patch to obtain and use is the head of a thumb tack. The point of the tack holds the patch in place while the solder is being applied. If properly cleaned with acid, solder will stick readily to both sides of the tack.

—L.A.W.

Extra Car Keys

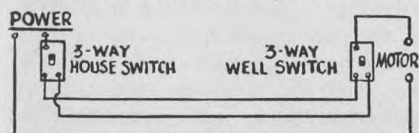
To save the price of a window or a bill from the locksmith, solder an extra key inside the hubcap of the car. A small drop on the end of the key will hold it and permit easy removal of the key by bending it up with the fingers. Be sure the cap is put back on tightly. Next time the keys are locked in the car an "in" will be provided without delay.—S.B.P.



EXTRA KEY
SOLDERED IN HUBCAP

Remote Control for Pump

To avoid going to the well each time, to start or stop a pump that is some distance from the house, use this handy remote control idea. Bury three No. 10 trench wires about 18 inches below ground in a trench running from the house to the pump. Use two regular, three-way switches, one at the house and another at the valve.



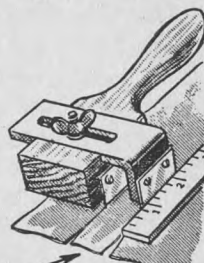
3 NO 10 TRENCH CABLES UNDERGROUND

This will make it possible to start the pump at the house, and stop it at the well if necessary, or to start it at the

well and stop it at the house. If the well can be seen from the house or buildings, a wig-wag signal will enable you to tell whether the pump is working. Perhaps more important is a visible signal to indicate when the water tank is full.—W.C.H.

Handy Strip Cutter

With the adjustable tools shown herewith, I can easily cut even strips of paper, rubber or leather from one-quarter to two inches in width. The hardwood handle is eight inches long and notched out so the metal piece fits tightly into it. The inside, single-edged razor blade fastens to the wood with wood screws, while the other is attached to the metal by means of two small nuts and bolts. When using, shift the metal piece and set the blades to the desired width. Now tighten the adjusting nut, and simply let the outside blade ride along your straight edge. The strip thus cut will have the same width throughout its entire length.—H.E.F.



BLADES CUT STRIP TO
DESIRED WIDTH

Smooth Barrel Top

We use our potato barrel every day, and many a scratched arm or torn sleeve resulted from rough edges. I used an old garden hose to make

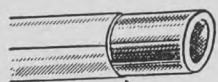


OLD HOSE
BARREL
STAVE

the top edge smooth. Get a piece the proper length, slit along one side and crowd it down over the top edge of the barrel and tack fast with a few short nails. It works fine.—W.P.L.

Sawing a Pipe Square

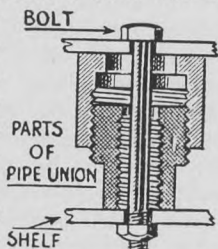
When I want to saw a pipe or shaft squarely across so that it can be easily threaded, I wrap a piece of writing paper around the pipe where it is to be cut. If the paper is laid out smooth on the pipe with each wrapping true to the one below, the saw-cut will be square if the saw is kept close to the edge of the paper. —G.E.M.



WRAP PAPER AROUND PIPE
SAW AT EDGE FOR SQUARE

Use for Old Pipe Union

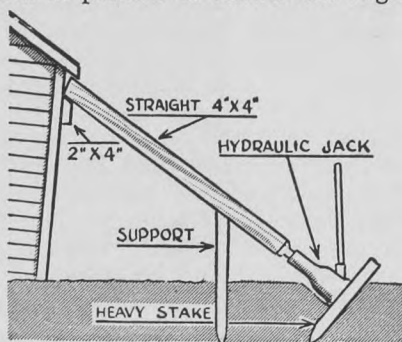
When I wanted a shim or block to fill in a space between a shelf and a wall, where rigidity was necessary, I used an old pipe union. The threads gave the necessary adjustment within a range of about half an inch. The fix was substantial and looked well. Where distances to be held are greater than the union, a nipple and coupling could be used in the same way. —W.F.S.



Out-of-Plumb Buildings

Small buildings sometimes settle or go out of plumb for various reasons, but can be straightened fairly easily. Secure a straight four-by-four-inch piece at least 12 feet long, or spike two straight two-by-fours one over the other. Next put one end of the four-by-four against a corner of the building as shown in the diagram, and dig a hole about ten inches deep in the ground about a foot farther out than the other end of the four-by-four. Then drive a heavy peg into the ground to provide a solid rest for the base of a jack. Put a heavy peg or stake into the ground four feet nearer

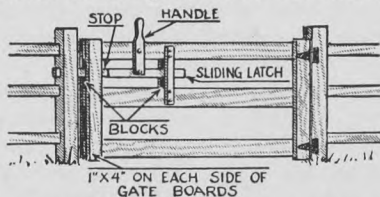
the building than the jack, as a rest for the four-by-four. Place a hydraulic jack in position as shown and begin



operating it. No boards need be loosened, but a few extra diagonal braces must be nailed to the studs before pressure is released. A short piece of two-by-four tacked to the corner board prevents the four-by-four from slipping down. —H.E.F.

Corral Gate

This gate is particularly handy for work around pastures and corrals because it can be opened by a rider without dismounting from his horse. A horizontal slide moves back and forth to lock or open the gate. It rests on two blocks inserted over the center boards of the gate itself. The slide is

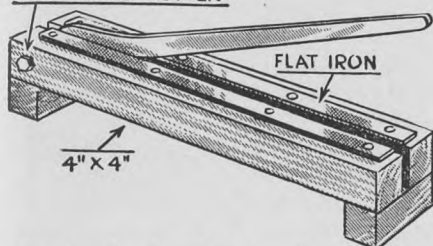


moved by a handle which is pivoted on the top board with a bolt and is fastened to the slide with a similar bolt. The slide must be free to move up slightly when in the open position. If cattle or horses are likely to move the slide or rub against the handle, a safety bolt should be inserted through the upright guide at the back end of the slide. —R.H.

Cutting Heavy Sheet Metal

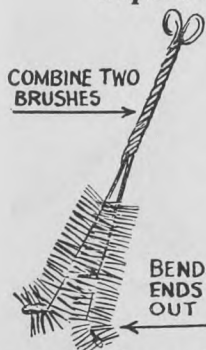
To cut heavy sheet metal or extra-thick tin quickly and easily, I made the improvised cutter illustrated. The handle, which is curved at the bottom and pivoted between the two

BOLT PIVOTS CUTTER



four-by-four's, is fashioned from heavy flat iron and must have edges which are square. The two flat irons which are bolted to the top of the two wood pieces, likewise must have straight edges, as these form the cutting edges. Clearance should be enough so that it will just accommodate the metal cutter handle. By placing the metal sheet on top of the flat iron and pressing down on the four-foot handle, the metal can be cut very easily.—H.E.F.

Separator Brush



For a really good separator brush, try this hint. Take two brushes of the same size and length, twist them together as indicated in the drawing, and then bend a little of the end wire over so that there are more bristles at the end. This makes it much easier to wash the disks on the holder, since one brush is on one side of the middle bars and the other on the other side. Also, one can wash the inside and outside of pieces of the separator at the same time.—H.C.

Improved Fork

A handy fork for use in unloading silage, or for scooping silage or corn from a wooden floor, can be made so as to keep the tines from getting caught in the cracks. I had a piece 3/16-inch by one-inch scrap iron welded across the ends of the tines, and then sharpened the front edge of this scrap iron strip, like a shovel edge. Now the tines cannot dig into the cracks, nor can small objects be impaled on or between the tines.—D.R.G.

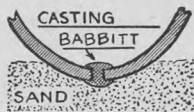


Barn Cleaner

A handy rig for cleaning the barn and removing the manure, where there is no narrow gutter, is to use an old road scraper with three or four mower guards bolted on the edge of the scraper, so that the guards stick out in front. They make the scraper dig and it works fine.—A.W.

Holes Closed

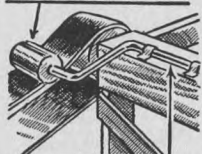
Welding is better than babbitting for closing holes in castings, but where no welding equipment is available, babbitting may be used successfully for temporary repair. It is also quicker than other methods. One can use ordinary babbitt, but lead or other metal having a low melting point is just as useful. Place the broken part in a box of sand as shown in the diagram, but clear the sand from the edge of the hole so the babbitt can clamp around the hole securely and hold both sides. Be sure the sand is dry and the babbitt is poured carefully. Some "temporary" jobs repaired in this way have lasted for 20 years.—W.F.S.



Buzz-Saw Belt Tightener

The diagram herewith shows how I made a very effective belt tightener for a buzz-saw from an old one-inch shaft. As indicated, the shaft was given two square bends, then a cotter-

ROLLER WEIGHTS BELT



BENT SHAFT CLAMPED TO SAW FRAME

key hole was drilled in each end and the longer section clamped to the saw frame. Then I fastened one or two pulleys from a discarded pump jack.

As on any straight belt, the upper side should have the slack, and the tightener set fairly close to the driven pulley. The tightener should also rest on the belt when the latter is idling, as well as when the saw is operating. It may require an extra weight if the tightener pulley is small.—I.W.D.

Wrecking Bar

The drawing shows a wrecking tool made for work in remodelling or tearing down old buildings, especially for removing ceiling, sheathing, flooring and other material where an ordinary wrecking bar is not very convenient.



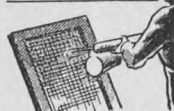
It was made from an old axle and I have made a lighter one for overhead work from the driveshaft of a light car. The handle is about $3\frac{1}{2}$ feet long, at the end of which is a three or four-inch right-angle bend to one side, and a seven or eight-inch bend downward. The tip is flattened to a sharp edge so it can be driven into a joist. To get full advantage of the leverage in the long handle, the wrecker should be made of tool steel. To remove sheathing or flooring the short bend

is dropped over the stud or joist, with the eight-inch part back of the sheathing. A pull on the handle easily loosens the boards. Less splitting will result from this tool than where an ordinary wrecking bar is used to pry across the studding.—I.W.D.

Painting Screens

Paint brushes cause clogging of the openings of hardware cloth or screening used in doors and windows. The

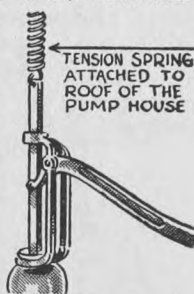
USE FLY SPRAY GUN TO PAINT WINDOW SCREENS



same paint can be thinned out and applied with a small fly-spray gun. The latter system is more speedy, can be just as thorough, and with reasonable care will avoid clogging any of the squares with paint.—F.M.S.

Makes Pumping Easier

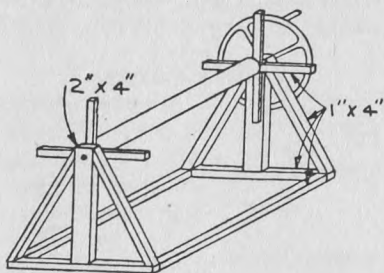
Here is a device to make pumping easier from a deep well, and to allow the use of a smaller h.p. motor than would normally be required. It would also prove valuable for a relatively shallow well. Drill a five-sixteenth-



inch hole through the top of the pump rod and fasten a tension spring of sufficient strength to just about take the weight of the rod. Fasten the other end of the spring to the roof of the pump house, with the rod at the top of the stroke. If there is no pump house, it will be necessary to build a bracket over the pump to hold the upper end of the spring solid. The spring will then take the weight of the rod and will mean that during pumping, it will lift most of this weight, and power will only be required to move the weight of the water.—M.J.

Fence Wire Reel

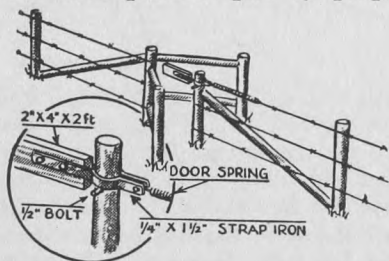
We use a lot of electric fence on the farm and often want to move it to new locations. The winding reel can be set on a truck or wagon and will carry one-half mile of fence wire with-



out letting it get tangled. The uprights are two by four's with two by two-inch braces, all mounted on a frame of one by four's. The roller is made from a straight, round post with bolts driven into the ends and cross-pieces fastened on to hold the wire in place.
—J.R.M.

Self-Closing Gate

This V-type gap is most useful around the house fences where people pass through frequently and animals are to be kept back. The fence on one end branches out to form an open "V." The single end from the other side carries a swinging board. A coil spring behind the board holds it closed or in line with the fence except when it is pushed open by people



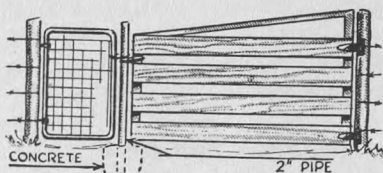
passing through. The board should be at least two feet long but should not touch the center post of the "V" since

that interference would prevent it from swinging in both directions.

The metal straps and collar are formed from two pieces of flat iron. The pin through the back of the straps should be three inches from the post to give the spring proper leverage in returning the swinging board. A bit of grease under the collar will make it operate more smoothly on the post.
—I.W.D.

Double Gate

Every power farmer will require at least a few double gates for wide machinery. They should provide clearance of at least 16 feet and preferably 19 feet. Handy widths are eight feet for the small side and 12 feet for the wider one. Concrete must be used to



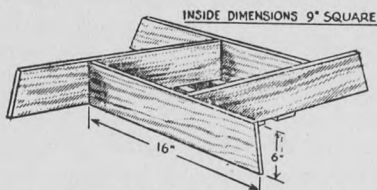
hold the center post between the gates. Wooden posts can be used but are not as lasting or strong and if the fit is tight, they will not be removable in wet weather. The best system is to wrap a two or two-and-one-half-inch pipe with heavy waterproof paper, then pour in the concrete around it. After the concrete has set, remove the wrappings from the post and apply some grease. Each gate should be chained separately to the post so it can be opened independently.—W.M.K.

Restoring Rain Barrel

To salvage an oak rain barrel damaged by frost so that the end is bulged, take off the two bottom hoops, replace the end pieces as flat as possible, put the hoops back on, and pour a layer of roofing cement or tar over the inside of the barrel end. Refilling the barrel with cold water will help set the cement.—E.G.H.

Salt Block Stand

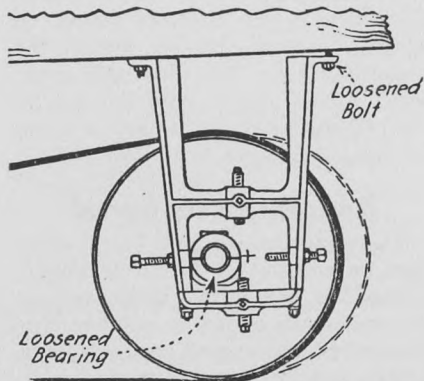
This salt block holder can be made from a single six-inch board and some nails. Cut the board into six pieces, two of them 10 inches long with square ends and the other four



measuring 14 inches along the top and 16 inches along the bottom and having one square end. Nail the longer pieces together to form a nine-inch square box with the long sides of the boards all at the bottom. Nail the two shorter pieces on the bottom of the box, leaving space between them for drainage. This unit will keep the salt clean and will not tip easily.—A.W.

Save The Belts

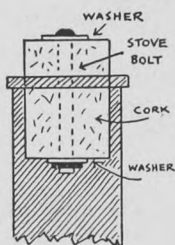
When putting on a tight belt or making a belt repair don't pry one edge on and run the rest on by power as this stretches and injures the belt. If there are adjusting screws on the pulley these should be loosened. Where there is no adjustment, it is



often possible to loosen a hanger bolt as shown in the drawing. The cross lines show where the centre of the

shaft will be when it is returned to its working position. On some patented pulley-mountings, it is possible to move the pulley forward without loosening any bolts. It pays to look over the situation and try to find some method of slackening the pulley before replacing a tight-running belt.—W.F.S.

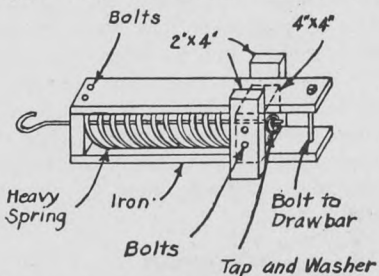
Bottle Corks



A bottle cork can be made to last much longer if a small hole is drilled through it lengthwise, and a bolt inserted. A washer should be used on both ends of the bolt and the nut should be tightened up snugly.—H.A.E.

Spring Wire Stretcher

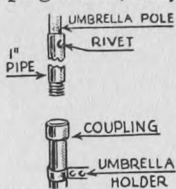
When pulling fence wire tight with the tractor it is difficult to get a definite tension and to hold it. This device, bolted to the tractor drawbar helps to overcome the difficulty. The heavy strap irons may be cut from old wagon tires or similar material. A



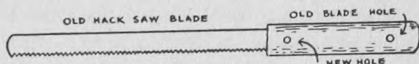
block with a hole for the hook is bolted into the rear end of the straps as a stop for the spring. The block at the other end must slide on the straps and guide the free end of the spring. The hook should be made of heavy rod—at least half-inch. The wire to be tightened is tied into the hook, then the tractor is moved ahead until the desired tension is obtained.—L.D.

Umbrella Holder

Pipes and couplings can be used to form an umbrella holder for the tractor. If the joints are kept greased, they can be uncoupled by hand and will save a bit of time and trouble. Place a short length of pipe over the handle of the umbrella and rivet the two together. Clamp a short piece of the same size pipe in the umbrella holder. Put a coupling on the top of the clamped pipe so the umbrella can be screwed securely in place. A few turns of the umbrella will mount it on the tractor or detach it as required.—J.W.S.



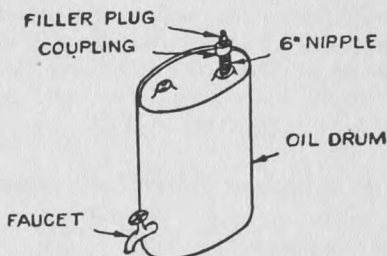
handle can be made by sawing a groove in a small block of wood. Put one rivet or stove bolt through the old



blade hole and another one at the front of the handle. The blade can be punched by heating. It may be easier to take a larger handle and put one rivet above and one below the blade at the front of the handle.—W.F.S.

Waterproof Bung

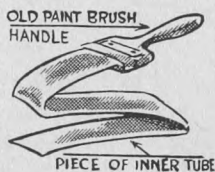
When drums of oil or gasoline are left standing outside, there is a danger of water entering through loose bungs. This can be overcome by tightening a nipple into the hole, then a coupling



on the nipple and the bung in the coupling. A nipple of from two to six inches length is most satisfactory. Even if there is water on the top of the barrel the bung can be removed without allowing the water to enter.—E.P.

Slapper for Livestock

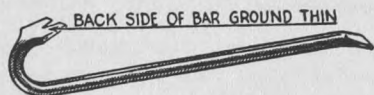
Hitting animals with sticks often bruises them, or otherwise discolors the flesh, if they are market animals. I used



an old paint brush handle with a length of inner tube fastened to it. I find this makes an ideal slapper for driving cattle and pigs, and doesn't injure them in any way.—I.W.D.

Saving Lumber

Large wrecking bars are standard equipment on most farms—they are also the cause of a lot of lumber damage. I recently tore down an old shed



which had pine siding that split very easily. I bought a 10-inch wrecking bar and ground down the back of the claw until it was thin enough to be driven under the nail heads with a few taps with the hammer. The nails would start to raise a bit, at least enough to be caught with the large bar. Occasionally the lumber was gouged slightly but this was hidden later by two coats of paint. The small, thin bar saved considerable lumber for me.—I.W.D.

Knife From Saw Blade

Put a handle on an old hacksaw blade and you have a useful knife-like tool for sawing in hard-to-get at places. It can also be used for cutting V-belts, rubber, etc. The wooden

Cutting a Tin Disk

Here is a method I use for cutting a neat large hole in any light sheet metal, roofing, or pasteboard. Take a piece of lath or board slightly longer than the radius of the desired hole, and drive a small nail through one end to serve as a pivot. Then drive a record-playing needle, or other hardened steel pin, through the board at the exact distance from the nail which will equal the radius of the hole to be cut. Drive the pivot nail through the sheet metal at the center of the desired hole. Press down on the pin or needle end, and rotate it around the pivot. The sharp steel pin will cut the metal after a few turns, leaving a perfectly round hole. The steel pin must be kept sharp.—I.W.D.

For Cleaner Stored Potatoes

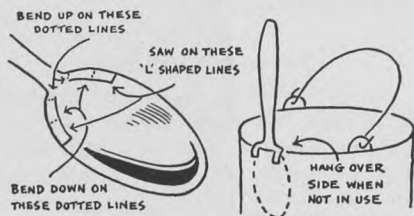
When picking up potatoes, a considerable amount of dirt usually comes with them into the pail, and eventually gets into the sacks or cellar. I use an old pail with several large holes in the bottom, to screen out the loose dirt. It's worth trying.—F.B.



on humid days. When cement has hardened in the bag, it is questionable whether it is worth using at all. If it has absorbed enough water to set hard, it has little or no value except for filling. A common rule is to drop such a hardened bag on a concrete surface two or three times, then open it and shake through a one-quarter inch screen. What goes through can be used with reasonable safety for mixing into cement, but what does not go through is better used for filling.—E.A.E.

Keep Stirring Spoon Handy

A hook can easily be made on the back of a spoon by cutting in the sides with a hack saw and bending



back the edges. Start about three-quarters of an inch from the handle and cut in for about one-eighth of an inch. With a pair of pliers, bend the strips back and down to form the hooks. When stirring food or preserves the spoon can be hung on the side of the kettle where it is kept cool, does not fall into the pot, does not mess up the stove or table and is always handy when needed.—M.K.V.

Part Sacks of Cement

Small quantities of cement can be kept for months in a tight paint can, but a sack that is only partly used can be prevented from hardening for some time, if it is put in one corner of the oat bin and dry oats shovelled around it. The dry grain will prevent the cement from taking up moisture

Plugging Pipe Hole

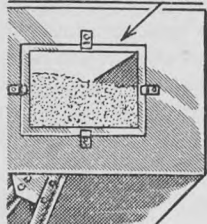


A convenient way of plugging a hole where a piece of pipe has been removed is to take the coupler off the pipe and insert a ball-bearing of the right size. Replace the coupling nut and the job is done.—E. E.

Grain Tank Window

When using small power take-off combines having gravity dump tanks, it is impossible to tell how much grain

CLIP PLATE GLASS OVER
HOLE IN GRAVITY TANK

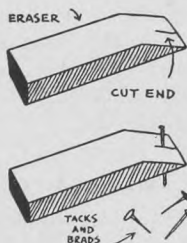


is in the tank until it is completely full. To overcome this handicap, place a glass window in the tank as illustrated. Cut a hole five by seven inches in the tank and place over it a

piece of heavy plate glass about one inch larger each way. Four small metal clamps held in place with stove bolts will hold the window.—A.B., Sask.

Eraser To Start Tacks

To eliminate the bruised fingers and lost tempers caused by trying to start small tacks or brads, a rubber eraser is a valuable aid. Cut a slit in the tapered end of the eraser about one-quarter of an inch long. Place brads and tacks in this slit and hold them in place until started. The idea can also be applied to starting small screws and bolts.—M.K.V.



Rubber Hammer



Sometimes one needs a rubber hammer to pound on polished wood or on metal surfaces which are not to be marked. Slip a cane rubber tip over the head of the hammer and use it like solid rubber. The shape of the hammer head is perfect for holding on the rubber tip.—E.L.N.

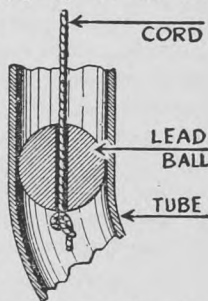
Home-Made V-Pulley

Here is a device which saved me several dollars when I needed a large V-belt pulley. Anyone handy with a welder can make a V-pulley from two discarded disk harrow blades, by cutting the center from one blade and welding the remaining wing on the reverse side of the other blade as shown. It can then be welded to a hub that fits the shaft to be driven. It might be easier to get a good fit on the shaft if a large pulley were welded to the side of a smaller V-pulley, so as to accomplish the good fitting and also secure a double V-pulley. To make a smaller pulley, simply cut out a smaller circle in the first blade.—F.S.



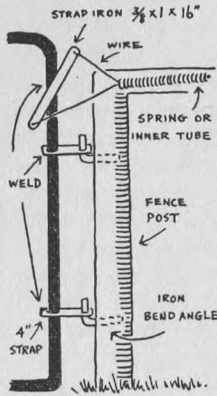
To Run Rope Through Piping

Sometimes, especially with electric wiring, it is necessary to run flexible material such as electric cord, rope, chains, or other similar materials, through tubes or piping. To do this easily, start a small thread or cord through the opening, attached to a lead ball. A hole can be drilled through the lead ball, or a steel needle or a small nail can be driven through the lead, by using a cork. After the first cord is pulled through, provided it is strong enough, it is easy to pull the desired material through. It is important to make the knot which holds the ball on the light cord, small enough so that it won't catch ahead of the lead ball.—W.F.S.

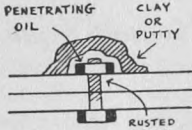


Gate Shuts Itself

This arrangement can be used on small gates around the farm yard. It permits the gate to swing either way by giving it a push and it always returns by itself to the closed position. The strap iron is welded across the back of the gate and two wires or cables are run to a spring or piece of old inner tubing. This gate is not suitable where there is danger of livestock pushing it open.—P.A.T.



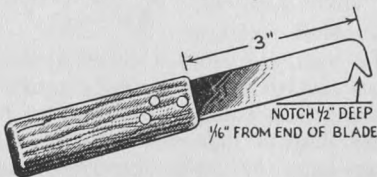
Loosening Rusted Nuts



Penetrating oil will usually loosen a rusted nut if the threads of the bolt can be kept saturated for a short while. In locations where it is difficult to keep the oil around the nut some damp clay or putty may often be used to form a little reservoir for the oil. A form of this type can be used on vertical surfaces and on the bottom of horizontal surfaces.—T. L.

Shaft Cleaner

This type of knife should be carried in the tool box of every binder and



combine. It is used to remove straw and string which has wound tightly around rotating shafts. A butcher

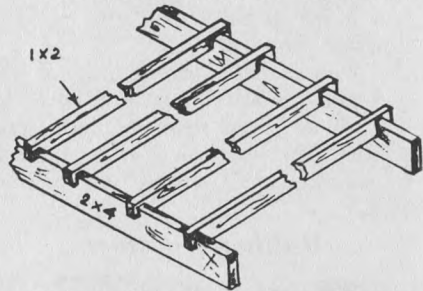
knife can be adapted for use as a shaft cleaner. Cut down the blade to about three inches long, then file a notch near the outer end and sharpen the edges of it. Round off the back corner of the blade which will be used to pry against. When the end of the blade is slipped under the wrapped material the handle of the knife is pulled back, causing the straw and twine to enter the notch and be cut.—M.C.T.

Pail Handle Grip

Some pails are not provided with grips on their handles; others have them broken or burned off. Grips can be made from short pieces of thick-walled rubber hose. To instal them it is necessary to straighten one end of the wire handle while the hose is slipped over. The wire must then be hooked back in the ear of the pail and bent to its original shape.—R.L.J.



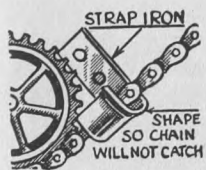
Movable Chicken Roosts



It is much easier to clean dropping boards if the roosts are arranged in movable sections. We ripped one by four's and set them on edge in notches cut in two by four's. A set of these roosts which we made are still in use and as good as new 20 years later. Their big advantage is that they may be removed for cleaning the dropping boards.—A.M.C.

Worn Sprocket Chain

Keep this idea in mind before harvest time. It may save a great deal of time for you as it did for me. If the chain on your implement is worn and



tends to jump off, you may be able to avoid buying a new one by using a piece of one and one-quarter inch strap iron bent to

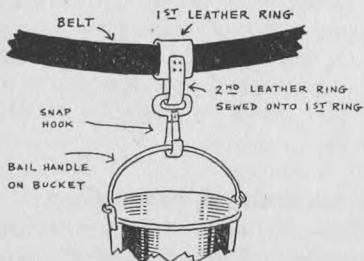
a U-shape. Find the nearest place the strap iron can be attached to so that it will be held firmly beside the sprocket. Bolt it on and bend the other end so that it forms a U around the chain, close enough to prevent it from slipping off. Care should be taken to bend the side where it rubs so that the links will not catch on it, but slide against it.—W.O.K., Manitoba.

Using Old Inner Tubes

By cutting diagonally across an old inner tube, it is possible to obtain rubber bands of almost any desired length. Another use — a section cut from an old tube and tied up at one end forms a handy collapsible container to fill a leaky auto radiator.

Pail Holder

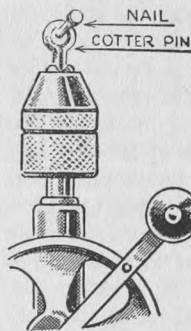
Berries may be picked much more quickly and easily when you have two hands free. A holder for the pail may be made from two small pieces of



leather and a snap. The larger piece of leather is sewn in the form of a

loop to slide over the belt and the second one is inserted through the ring of the snap and sewn to the first. The handle of the pail may then be hung from the snap, is easily hooked on and removed and will stay in a straight, convenient position while picking the berries.—D.B.

Hand Drill Hook



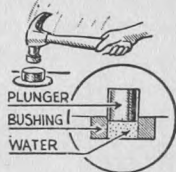
A hand drill is one of the most awkward tools to store. This difficulty can be easily overcome, however, by inserting a large cotter pin in the chuck and tightening. The loop in the cotter pin will easily slip over the end of a finishing nail.—R.K.W.

Friction Spots

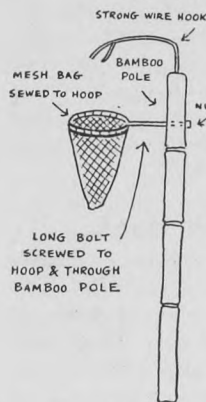
Save your children's crayon stubs for use on car door latches and other friction spots. The crayon will not run off or rub off on your clothing like oil will.—G.H.

Removing Bushings

Bushings can be removed from blind holes by using a simple principle of hydraulics. Pour some oil or water into the center of the bushing. Make a close-fitting plug of hardwood or metal and insert it in the bushing above the fluid. Strike the plug a few sharp blows with the hammer and the bushing will be forced out of its casting. This system has the advantage of not scratching or marring the bushing or casting in any way. It will also recover a bushing which would otherwise have to be destroyed in removal.—W.F.S.



Fruit Picker

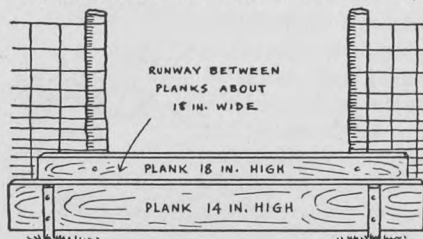


This fruit picking aid is made on a long bamboo pole of the type used for fishing or binder whips. The hook at the extreme end of the pole may be made of stiff wire and must be wedged solidly into the top of the pole. The hoop for the bag

may be of wire but a crocheting hoop is more convenient. The bag can be a small salt or sugar bag or one such as a grocer uses for fruit and candy. A long, quarter-inch bolt, threaded at both ends is inserted through the pole and hoop and held with two nuts. To use the picker, simply reach up into the tree and hook the apple or cherries and they will drop into the bag.—D.B.

Gateway Hog Trap

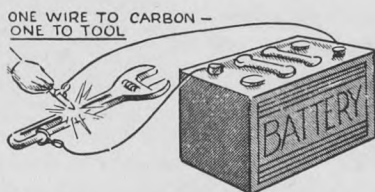
It is often desirable to leave gates open for horses and cattle while keeping the hogs from passing through. With two planks arranged as in the drawing, the hogs are not able to jump over them both and if they are persistent in trying to get out the gate, they will enter one end of the runway



and come out the other thinking that they have been successful. Horses and cattle are able to jump over the two planks with little trouble.—E. L. M.

Marking Tools

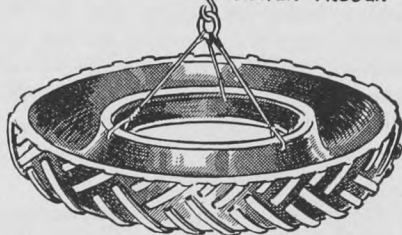
I mark my tools with a neat indelible mark which can only be removed by filing. To do this use a storage battery with heavy clips and wire



attached to each post. Ground one wire to the tool. Fasten the other to an electrode which can be made by sharpening the carbon post from an old dry cell. Since the carbon rods soon get very hot it is handy to have replacements. This works particularly well on chrome or vanadium tools.—G.M.

Trough from Tire

HALF OF OLD TRACTOR TIRE MAKES GOOD WATER TROUGH



You can make a fairly satisfactory trough quite easily from an old tractor tire casing, by splitting it in two, and hanging it from a rafter inside a building by three wires, joined at a center ring, and slipped over a hook on the end of a single wire to the rafter.—A.A.W.

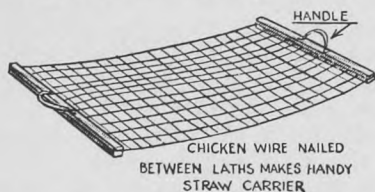
Securing Grease Cups

Grease cups on fast-moving machinery will sometimes shake loose. Those on mower pitmans and connecting rods of stationary engines are

particularly troublesome. To hold them securely, use a small coil spring. If the cap turns loose from the body of the cup, put the spring inside with the grease and cut it long enough to give it some compression against the cap. If the whole unit is coming loose from the casting place the coil over the stem of the grease cup to cause binding with the casting.—H.N.W.

Straw Carrier

This light straw carrier saves time and trouble in moving armfuls of

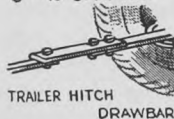


straw or hay from one building to another or from a straw pile. A piece of light poultry wire is used. It should be four feet wide and of about the same length. Nail it at each end between two four-foot strips of lath and provide handles for the lath by twisting on some heavily insulated wire. The carrier not only permits the moving of a larger load but prevents spreading the straw all over the yard.—L.C.D.

Tractor-Trailer Help

It is much easier to control a trailer, wagon or implement in backing it up if the tractor drawbar is extended.

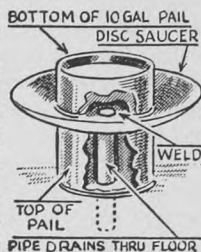
8" OR 10" STRAP IRON



By this method a slight change in the direction of the front end of the tractor has more effect on the steering of the vehicle being backed up. I use a piece of strap iron which is bolted solidly to the drawbar of the tractor and increases its length by about 10 inches.—B.A.M.

Poultry Watering Device

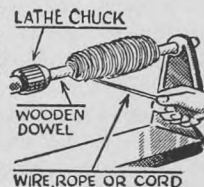
I have kept the bedding dry in my poultry house for 15 years by using this device for watering. I built it on the cup and saucer principle. First weld a one-inch pipe 13 to 18 inches long, over the hole on the bottom side of an old disk



p l o w blade (24-inch). Next cut a 10-gallon paint pail in two, nine inches from the top. Drill a small hole, slightly larger than the one-inch pipe just under the outer edge of the droppings board. I put the top part of the cut pail over this hole, with the disk saucer and its welded pipe resting on the pail top. The extra pipe length goes through the hole in the floor. Then smooth the sharp cut edge of the bottom part of the pail with a file and it is then ready to hold water after being placed in the disk saucer. I keep the waterer under the edge of the high droppings board to keep the hens from flying into the pail. If they hop onto the saucer the dirt stays there, water from wattles and bills does not drop on the bedding, and when the water is changed the container is emptied into the saucer and the old water drains away through the pipe into the ground or drain under the building.—W.W.L.

Lathe Serves as Winder

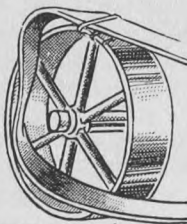
You can do a fast job of winding electrical wire, rope or cord by mounting a half-inch wood dowel between the lathe



chuck and tail stock. By attaching one end of the material to the dowel, and operating the lathe at its lowest speed, winding is very quickly completed.—W.G.W.

Putting Belts On

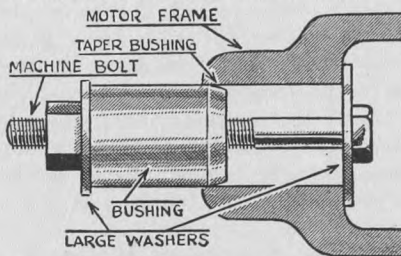
Putting belts on as shown in the sketch may be safe for the mechanic, but not for the belt. Tying the belt and then pulling it on by power or sheer force may leave a permanent stretch at or near the tied spot, which will prevent the belt from running straight afterwards. After once stretching beyond its elastic limit, it cannot be unstretched. A better way is to catch the edge of the belt, and then run it onto the pulley gradually. Still better, if possible, is to reduce the distance between the shaft centers while putting the belt on, and then putting the center distance back to normal. Don't try to put the belt on all at once, as shown in the diagram.—W.F.S.



WRONG!

Inserting Bushings

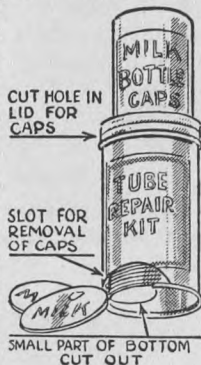
If small copper, or brass bushings are not kept in direct line when forced



into place, damage may result. Distortion will follow the use of a hammer. The sketch shows that bushings can be inserted in the easiest way by tapering the outside of the bushing slightly at the edge to be inserted, and then applying a few drops of oil. Then, by using the bolt, nut and large washers as shown in the illustration, the bushing can be drawn in undamaged, simply by tightening the nut on the outside.

Cap Dispenser

I have found it very useful to keep some bottle caps available, and in order to keep them clean and still convenient, I bought a small inner tube repair kit, because the container was of tin and about the right size. I cut the top out enough to insert a roll of bottle caps. At the lower end of the side of the can I cut a hole large enough to allow the tops to feed out one at a time. I also cut a small hole in the bottom of the can so the index finger can be used to slide them out. I peened the edges over carefully to avoid cutting fingers and clamped the can to the wall in a convenient place, and since then the cap dispenser has always been available and clean.—D.A.



Turns Away Sparrows

In some granaries and barns the birds spoil a lot of feed with their droppings. To turn them away, smear the tops of hay tracks and rafters with a liberal coating of creosote. The birds will not come near it.—J.L.K.


Handy Punches



The tines from worn down and broken forks make punches of high quality. If they are cut to have part of the cross-piece left on the end of the tine, it makes a handle. The punches can be sharpened to use as an awl for canvas and leather work.—J.M.

Babbitt Ladle

BENT PIPE FORMS HANDLE
NOTCH FOR POURING



DISCARDED PISTON

Cast iron pistons can be made into useful babbitt ladles. A bent pipe can be inserted in the wrist pin hole to serve as a handle. Grind or file a notch in the side of the skirt—this will act as a spout for pouring. As a melting pot this ladle can be used in a forge, with a blow torch or in a clean furnace fire.—W.H.S.

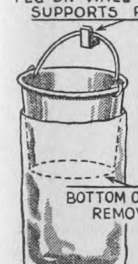
Greasing Wagon Wheels

To eliminate the tedious job of removing wagon wheels to grease them, fit the hubs with zerk or alemite fittings and use the grease gun. Holes can be drilled and tapped on the inside of the hub of steel wheels. For wooden wheels, drill the hub then insert a short steel pipe which has been tapped to take the fitting. Drive the pipe home firmly to prevent it from working loose.—J.W.



Sack Filling

PEG ON WALL SUPPORTS PAIL

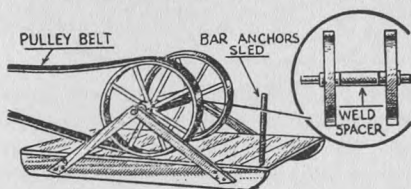


BOTTOM OF PAIL REMOVED

Most farms have some discarded, bottomless pails; they can be used conveniently to hold open sacks which are to be filled. When two men are available, one can easily hold the sack and pail while the other shovels. The process can be made a one-man job by hanging the pail on a hook or peg and pulling the sack well up over the lip of the pail.—W.F.S.

Fence Wire Reel

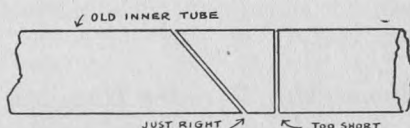
This reel is particularly suitable for handling large quantities of fence wire. It is made by placing two steel truck wagon wheels on an axle and spacing them about two feet apart. The axle is carried on two-by-four-inch braces, mounted on a sled. The spacer between the wheels should be welded in place and should be about



six inches in diameter or the size of the wheel hubs. In use, the sled is anchored or held with a bar in the ground while one end of the wire to be rolled is fastened to a wheel spoke. A belt from the tractor pulley is run around one of the wheels and the tractor engine is run at idling speed. This reel will handle one mile of standard barbed wire with ease. To lay out the wire in a new location, anchor the outside end then draw the sled along the fence row and let the wire roll out.—J.W.H.

Endless Rubber Belts

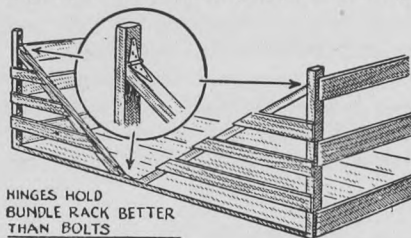
Occasionally a light rubber or leather endless belt is required. In an emergency, one can be cut from an old inner tube. The length of the belt



is determined by the angle of cut as in the drawing, the cut marked "just right" is longer than the other. Do not run the belts too tightly as extra wear is brought on the bearings and power is lost.—W.F.S.

Hinge Fastenings

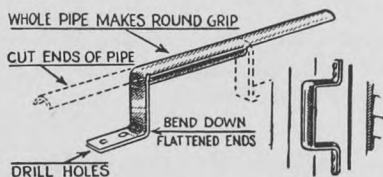
I have found that strap hinges and $\frac{1}{4}$ -inch bolts will hold the sides of a hay rack more solidly than do large



bolts. The hinges allow the bolt holes to be drilled through the corner pieces and side braces at right angles. When they are drawn up tight they will not shake loose.—A.B.

Solid Door Handles

Handles for heavy doors can be made from pieces of scrap metal pipe. Mark the pipe in three equal sections and saw half way through at the marks. Cut out the bottom half of the pipe at each end, then flatten the ends and bend them as shown. Drill two



bolt holes in each end piece for solid fastening to the door. The size of pipe, length of pipe and size of the holes drilled will be determined by what material is available and by the size and weight of the door.—J.R.E.

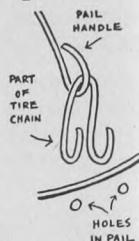
Preserving Wooden Handles

New fork, axe and shovel handles, etc., are often dry and brittle. Before they are used they should be treated with oil. To do the job the ends can often be drilled out with a small bit in the brace. Drill the full length of the bit into the center of the handle

then fill the hole with light oil and seal it over or plug it. Handles with ferrules should have the tools removed, the ferrules filled with oil, and should then be left standing for a week before they are reassembled for work.—A.McC.

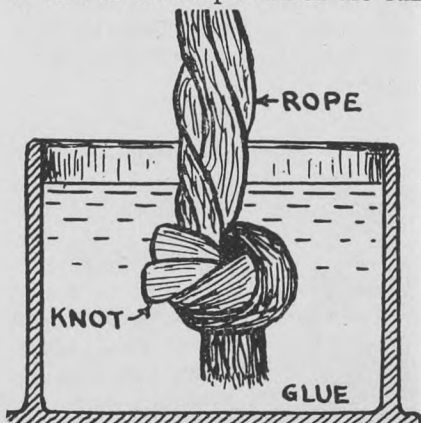
Pail Handle Repair

A lug will often break off an otherwise good pail. The hook from the end of a cross chain can be taken from an old set of tire chains and used as illustrated. Spread the hooks and put them through two holes which are punched in the side of the pail. Pinch the hooks back tightly and put the handle through this new "lug."—E.S.



Glued Rope-Ends

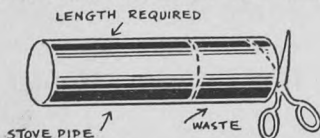
Sometimes the knot in the end of a rope just doesn't want to stay there. It is particularly hard to get the knot to hold in new ropes which are stiff



and slippery. The knot can be made to stay by dipping it in glue, black japan, thin shellac or any other heat and moisture resistant mixture. The only way to remove a knot so treated is to cut the rope.—N.N.J.

Cutting Stove Pipes

Mark the pipe at the length desired. Start to cut in from the end which is



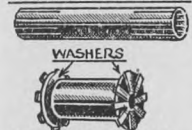
to be discarded, using a spiral path to the length which is marked. From here on, cut along the marked line.—W.E.

Homemade Bushings

It pays to save even the short ends of conduit and water pipe. I use them in my spare time to make bushings.

These are often required to bush wagon and sleigh eveners, king pin holes and holes for box rods. The pipe should be about one inch longer than the material to be

HACKSAW BOTH ENDS OF
PIECE OF WATER PIPE



BEND ONE END OF PIPE,
INSERT WASHER, BUSHING
AND SECOND WASHER,
AND BEND OTHER END.

bushed. Make about four cuts in the ends, each about one-half-inch deep. Slide two washers over the pipe and bend up the strips of one end. When the bushing is to be installed remove one washer, insert the bushing, place the washer back on and bend out the strips on the other end. Holes which are thus protected will give many times the usual amount of wear.—R.M.C.

Water Tank Gauge

SEALED CAN IN TANK
MAKES GOOD INDICATOR.

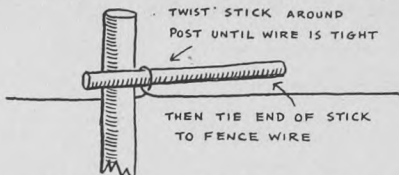


When a tank or automatic waterer is some distance from the pump or water valve, it is often difficult to prevent overflows without making a lot of extra trips to check the level. A simple gauge can be made by sealing a small, empty can

to make it airtight. Allow it to float on the surface of the water and it will ride high enough to indicate when the tank is nearly full.—L.A.

Tightening Fence Wire

I find that this is the simplest method to tighten old fencing. A broken picket makes a good stick for twisting. When the wire is tight

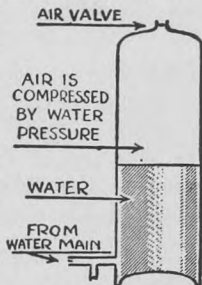


enough, tie the end of the stick with another short piece of wire.—J.W.M.

Emergency Compressed Air

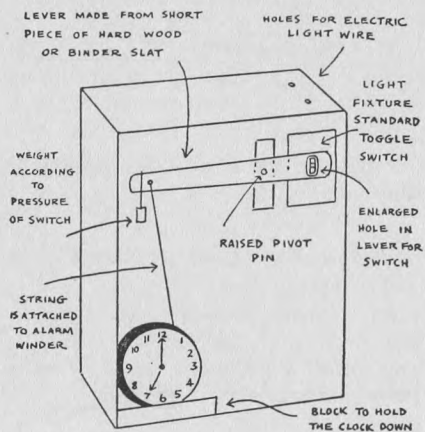
The sketch herewith shows how to convert water pressure into compressed air without the use of a pump or any other equipment aside from a pressure container of some kind.

This will meet the emergency need for compressed air that occurs once in a while. The sketch shows an ordinary water tank—an old one will do, provided it does not leak. Close the air valve at the top, and allow the water to enter at the bottom. When the trapped air attains the same pressure as the water in the main, the inflow of water will cease. The compressed air can then be used for any purpose such as paint spraying, filling automobile tires, bicycle tires, dusting, blowing scale from radiators, spraying plants, or starting diesel engines. When the tank becomes full of water, drain it out, and repeat the process.—W.F.S.



Alarm Clock Light Switch

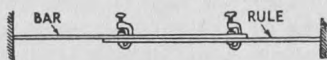
Here is another way to hook up an electrical switch to be turned on or off by an alarm clock. It may be used when the switch is too stiff to be flicked by a string run directly from the winding stem of the clock. A slat of hardwood or a binder slat may be used to gain the mechanical advantage of a lever. The slot in one end of the slat is placed over the toggle of the



switch and a pivot pin placed near the switch. If the toggle is very hard to move, weights may be added to the long end of the arm to aid the action as the string to the clock is tightened. The clock must be fastened down.—W.L.

Measuring Aid

When measuring between two walls, or other objects that cannot be measured directly with a rule or steel tape, a sliding stick can be used. One end is of definite length and is shown

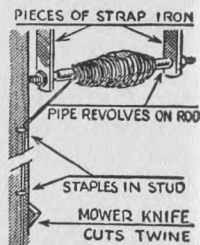


in the diagram as the bar. A graduated rule is clamped to this. When the two sticks fit the distance snugly, read off the rule at the tip of the bar and add this figure to the length of the

bar to give the total distance. If the bar is 30 inches long and its tip comes to the 10-inch mark on the rule, the total distance is 40 inches.—W.F.S.

Handy Twine Holder

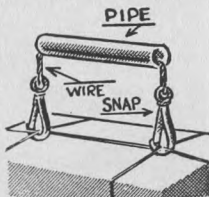
Here is an idea that I have found very handy for keeping binder twine in the shop. I took two pieces of strap iron, fairly short, put holes in one end of each large enough to take a small rod, and stapled the other ends to the wall far enough apart to hold a short piece of pipe which would revolve around the



rod, as shown in the drawing. The ends of the rod were threaded to take nuts, which makes a very simple assembly for carrying the binder twine. The end of the twine is run over to a nearby stud, and carried down it through staples to a convenient point where a mower knife section or a piece of iron sharpened to a good edge is fastened for cutting the twine as needed.—R.J.

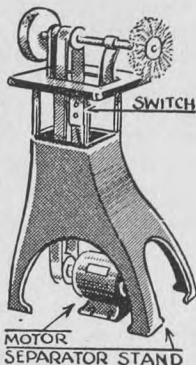
Package Carrier

Heavy cartons or bundles are not easy to carry. They are usually tied with small rope or wire, and I made a snap-on handle which consists of a short length of pipe just big enough to provide a good grip. A piece of stout wire is run through the pipe, and a large harness snap fastened to each end. Clipping the snaps to the binding cords makes it easy to carry an otherwise heavy and awkward bundle.—I.S.



Bench Grinder Stand

I made a very satisfactory stand for a bench grinder from a discarded cream separator. When the separator was removed the stand was too low, so I removed the collar or plate at the top of it, welded four 10-inch strips of two-inch angle iron to corners of the stand, and then welded the plate to the upper ends, thus increasing the height about 10 inches, which is about right. Squares of old tire-casing under each leg helped to keep the stand steady. In stead of welding the 10-inch angle iron, one could put the stand on a heavy wood block 10 inches high or on a block of concrete and then fasten the grinder directly on the plate. The block could be bolted to the floor, or made level with adjustable leg screws. —I.W.D.



force which lifts the weighted bucket must pull around the upper bearing at the time that both upper and lower bearings are under heavy friction. When the power is applied at the top the weighted buckets are lifted by a direct pull, with practically no friction on the chute side, or the lower elevator bearing. There would not be much difference if both upper and lower shafts were set in well-lubricated anti-friction bearings. As a rule, plain bearings are used, and are not too well lubricated, so that lifting from the upper pulley would not take more than half the power required at the bottom. —I.W.D.

Repairing Chisel Shanks

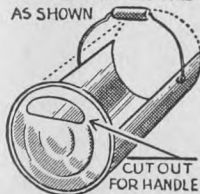
It does not pay to repair cheap chisels but better grade tools should outlast many shanks and handles. If a shank breaks off, cut it squarely, then replace it with a shank from a discarded hoe. Weld on the new shank but be careful not to overheat the blade of the tool as heating will remove the temper. Only hardwood plugs should be used for handles. —C.R.S.



Grain Scoop

This is a handy grain scoop that I made from a five-gallon paint bucket.

CUT 5 GALLON PAINT PAIL AS SHOWN



I first took off the cover and cut the pail lengthwise as shown, a little bit above where the bail is fastened, leaving the bottom of the pail whole.

Next, I cut a hand-

hold in the upper half of the bottom and rounded the edges to keep from cutting my hand. —I.W.D.

Power for Elevator

The place to apply power for an elevator is at the top rather than at the bottom. If applied at the bottom, the

More Broom Service

To make a broom last at least twice as long, try slipping an old silk stocking

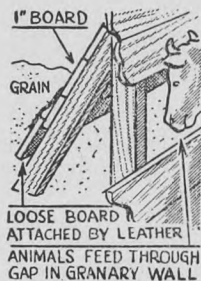


ing over the broom part. Cut off the foot and ankle first, then slip the upper part down over the handle and broom to within about three inches of the bottom of the

broom. Tie the remainder of the stocking tightly around the bottom of the handle with string. In this way, the broom will keep its shape and will wear evenly. —A.J.W.

Granary Feeder

Feeding livestock involves a considerable amount of labor unless the self-feeder idea can be used. Last year I tried out the idea of grinding hay and grain together and putting this feed into an old granary which I converted into a self-



converted into a self-feeder. It is by far the best method I have tried. I have not had any cattle off feed all winter. It saves time, and there is no feed to handle in windy weather.

One man can care for 100 head of cattle with an hour per day, without tractor or horse. I used an old granary 14 feet by 18 feet which I made into a self-feeder, with cattle eating from both sides. I grind four tons of good baled alfalfa with 12 tons of grain once a month with the self-feeder. The cattle do not waste any feed and none is lost in the wind.—F.S.

Rubber Band Nutlock

An ordinary rubber band can be used to make an effective lock nut, as illustrated in the drawing. Wrap the



rubber band tightly around the threads of the bolt by stretching the rubber while wrapping. Then turn the nut on. The rubber band will prevent it from working loose and do it more effectively than many so-called nut-holding devices. The idea will work even if the band is chewed up by the threads when the nut is screwed into place, but the particles of rubber will still be elastic and will do their job.—W.F.S.

Paint Scraper

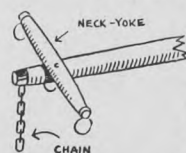
I use this device for removing hardened enamel or paint before repainting or using edged tools. I took a piece of $\frac{3}{4}$ -inch wood, wide enough to provide a good grip, cut a slot in one edge with a thin saw, and rounded the other edge. An old hacksaw blade was forced into the thin slot so that it was held securely. The fine teeth will quickly break up the hardest enamel or paint.—I.S.



A Hint or Two

Here is a handy hint or two you will find helpful in shop and bench work. When you wish to measure accurately the distance across a gap or open space like a wide door, which is wider than the length of your measure, hold two rulers or large sticks together, and adjust them so they touch both sides. Then you can get the exact width almost to one one-hundredth of an inch. I also lay two or more yardsticks end to end along the back of my work bench. Then I can easily measure the length of an article by holding it on these yardsticks, without the trouble of reaching for and unfolding a reel. A block against the zero end of the first yardstick to push the piece against will make the arrangement more convenient.—J.H.R.

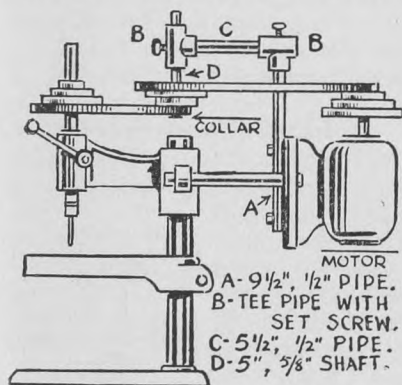
Guide For Lines



Many teamsters have trouble with the lines of the horses catching under the pole. I put a chain on the end of the pole and let it hang about 18 inches. The teamster who uses this method will no longer be troubled with lines catching.—E.W.P.

Slow Speed for Drill Press

I made a slow speed attachment for a drill press by lengthening the two shafts holding the motor base to the drill press, by ten inches, and then built in a 9½-inch length of half-inch pipe to one side of the motor base, so it would extend above the four-step pulley on the motor shown in the drawing. Screw in a tee on the top of this, and through this tee screw a 5½-inch nipple threaded three inches on one end. To the other end is attached another tee with ⅝-inch outlets. Through this tee put a ⅝-inch shaft five inches long, with a set-screw



through the tee, to hold it in place. Then a four-step pulley, of the same size as that on the motor and gear press, is bushed with a brand bearing. Since this pulley must turn on the shaft, hold the pulley in place by a collar on the end of the shaft. Instead of the shaft and collar, one could use a ⅝-inch bolt with a machine head, but the shaft is better.

When in use, the original belt is used from the pulley on the press to the inverted pulley on the idler shaft, tension being obtained by moving the motor back on the slides. Another belt is required from the idler, which has been turned over on the motor. Tension for this is secured by screwing the pipe in or out of the tee on the

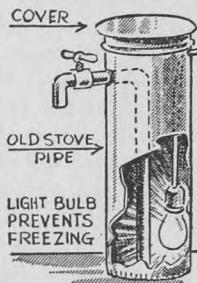
vertical post attached to the motor base. To prevent the tees turning, set-screws are required into the back of each. Should additional tension be required, turn the tee on the post so as to set the idler pulley off center.

Pulleys used were four-step pulleys of five-inch, four-inch, three-inch and two-inch. These gave excellent slow speed; and exceptionally high speeds are obtainable by reversing the belts. I have used one-inch drills in ½-inch drill press, with good results. If it is desired to lower the head on the main post, the idler can be moved to one side and the tension adjusted by the slides and pipe.—E. G., B.C.

Prevent Pipes Freezing

To keep your water pumps and hydrants from freezing in cold

location, I use the method shown in the diagram. It is simply a section of old stovepipe slotted a little at the top so that it can be slipped over the hydrant. A small light bulb is fixed inside the stovepipe close



to the floor, and I put a cover on the top of the stovepipe to hold in the heat. Only a small bulb is required because not much heat is needed to protect from freezing in a confined space.—I.W.D.

Prevents File Clogging

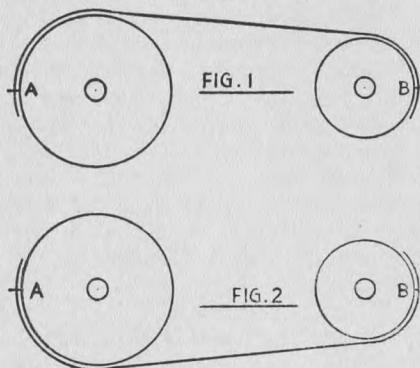
A simple way to prevent a file from clogging while filing soft metals such as brass, copper and

the like, is to take a piece of chalk and rub it into the teeth of the file. It will be necessary to apply fresh chalk occasionally.—R.K.W.



Measuring

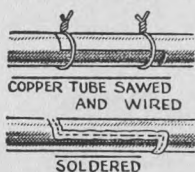
Figures 1 and 2 in the drawing show how to measure the distance around pulleys, sheaves and drums accurately. Sometimes a tapeline or steel tape is not long enough to reach



all the way round. Two men can do the job most effectively. One makes a mark at A and the other at B. Measure the top from A to B and then measure around the bottom from A to B. Add the two measurements to secure the exact distance around. Be sure to hold the end of the tape precisely at A, and measure both times and add at B.—W.F.S.

Soldering Tubing

When two lengths of thin-walled tubing or conduit are to be soldered together, I find that a lap joint is much stronger than a butt joint. To



make the lap joint, cut lengthwise into the center of the tubes for a depth of one inch. Make one short vertical cut in each tube and remove half of the sawn end as shown. Remove the filings and burred edges left by the saw and fit the laps closely by filing. Fasten the joint with two wire loops and solder the center portion. Remove the wires and complete the job.—H.E.F.

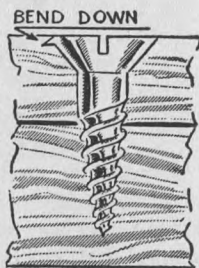
Home-Made Keyhole Saw

Here is an inexpensive idea for a keyhole saw which will cut steel, iron or wood. Use a 14-inch hacksaw blade with ten points to the inch. Grind off a portion of the blade as indicated in the diagram, being careful not to get the blade too hot, so that it loses its temper. Then, use a roll of friction tape and tape the opposite end of the blade thoroughly for six or seven inches, using as much tape as necessary to make the blade convenient to hold in your hand. If the tapered end of the blade has been tapered to a point, the point will penetrate through half-inch wood by merely tapping on the handle.—J.P.



Holding Wood Screws

Screws in wood may gradually work loose and come out, particularly if joined pieces of wood are subject to constant strain and vibration. The best preventive in my experience is to bend down the edge of the head with a cold chisel, as shown in the drawing. This



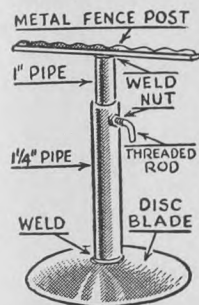
serves as a brake or lock on the screw, and will make it difficult to remove even with a screwdriver. After the screw is solidly in place, the best place to make the bend is where the bent portion must move against the grain of the wood and not with it.—W.F.S.

Cleaning Files

A good way to clean files, and sharpen them also, is to place them in a sulphuric acid solution for a few minutes. As soon as the file is removed, wash it in ammonia to neutralize the acid.—A.E.W., Alta.

Adjustable Support for Shop

I made a handy adjustable support to use in the shop when I wanted to support a long rod for welding or other work. The base is made from an 18-inch disk blade. To this I welded

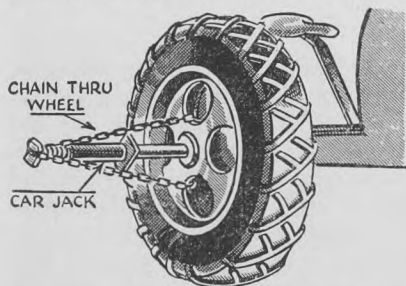


a two-foot piece of $1\frac{1}{4}$ -inch pipe, with another piece of similar length of one-inch pipe to telescope into the larger one. Then I welded a two-foot piece of steel post to the upper end of the one-inch pipe so that it

would lie horizontally and make a rest for the work. To get an adjustment screw, I drilled a nine-sixteenth inch hole about two inches from the top of the $1\frac{1}{4}$ -inch pipe then welded a half-inch nut over the hole, threaded and bent a five-inch piece of half-inch rod to be used in the welded half-inch nut for height adjustment. For greater convenience, two of these supports are handiest and are often used for carpenter work.—I.W.D.

Adjusting Tractor Tread

I find that the best tool for sliding tractor wheels on their axles is an ordinary automobile jack. To move

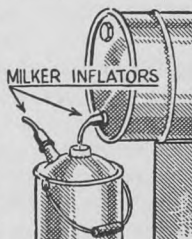


the wheel out, place the jack against the end of the axle and loop a chain or wire around the wheel hub and

over the head of the jack. The wheel will move easily as the jack is screwed out. To decrease the tread width, pass the chain through the near wheel and around the hub of the wheel on the opposite side of the tractor, then pull it in the same manner. An alternative method is to drive the tractor alongside a large tree or post and place the jack between the tree and the wheel hub. As the jack is pumped, it will then push the wheel in on its axle.—R.O.

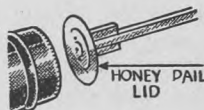
Milk Inflator Funnels

Milk inflators make the handiest possible funnels. If liquid is being poured from a barrel, hold the inflator against the bung hole; if it is being poured from a can, slip the inflator over the spout of the can and wire it on permanently. If a faucet is used on the barrel, the inflator can be used as a funnel and slipped over the nose of the faucet. You don't spill a drop with these funnels and they can be left in place for ready use.—H.J.H.



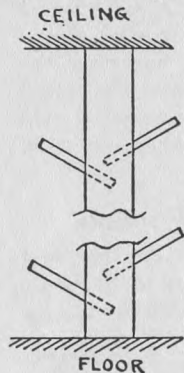
Stove Pipe Cleaner

A simple way to eliminate damage to stove and furnace pipes is to clean them with a scraper such as the one I have drawn. It avoids dinging the pipes with a stick or flaking off the galvanizing. To make the cleaner, nail the lid of a jam pail to the end of a long slat or stick. Fasten two braces to the sides of the long stick with the three ends flush. Tack the pail lid to the base of this handle and the cleaner is ready to save the lives of numerous pipes.—A.P.



Strong Balanced Rack

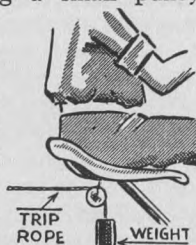
If heavy materials are to be piled on a rack attached to an ordinary wall, it may be dangerous, because of the one-sided pull created. The sketch shows a strong rack I have made and used successfully.



Pipe, lumber, posts and bars have been piled on it, and it has never yielded in the least. To make one, bore holes in sturdy upright timbers at a slight angle, as indicated in the sketch. For shelving to hold smaller objects, bore the holes at right angles, so the shelves will be horizontal and not sloping. Insert short pieces of pipe to fit nicely in the holes, fasten the vertical timbers both at the top and bottom, and good serviceable rack will result which is capable of holding a tremendous load. By placing shelves on both sides of the upright timbers and loading both sides, a desirable balance is obtained. —W.F.S.

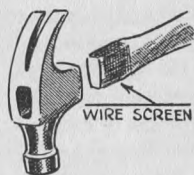
Tractor Trip Rope

This practical idea really saves time and temper during the rush seasons on the land. Hang a small pulley under the tractor seat and run the trip rope through this pulley. Hang a weight on the rope to keep it snug and prevent entanglements with the levers while turning corners. If



a small snap is used on the implement end of the rope, the rope can be removed from the tractor by letting it run through the pulley. —P.G.W.

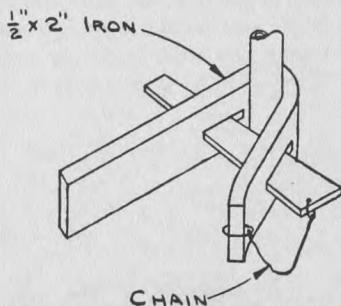
Tight Hammer Handles



Here is a very satisfactory way to secure a hammer handle so it will not work loose. Taper the handle until it will just enter the socket, then wrap the tapered part tightly with a layer of wire screening or hardware cloth. When the handle is driven into the socket the screening will bite into the wood and hold it securely. Other tools can be treated in the same way. —C.R.

Well Pipe Holder

I have found this holder to be very handy when pulling a pump or when dropping the pipe back into the well. It consists of a piece of half-inch flat iron, two inches wide and 30 inches long. Heat and bend it in the centre to fit the size of pipe in the well. I drilled and filed two slots in the sides of this bar, making them one and a



half inches long and half an inch wide. The wedge is 10 inches long, half an inch wide at one end and one and three-quarter inches wide at the other. It is a good idea to tie on a piece of wire or chain to prevent the wedge from being lost. With this holder over the hole, I can pull a section of pipe with the block and tackle, tap the wedge into place with a hammer, and hold the pipe securely while I get another bite with the chain. —L.R.P.

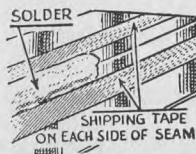
Wash Line Stretcher

This method of suspending a clothesline will keep the line tight at all times. Use the leaves of an old auto spring and bolt them through the center to the outside of the pole. Cut shallow notches in the leaves near their ends and wrap the lines around the notches. Tie the wires tightly enough to bend the springs until straight and the springs should have enough tension to keep the line tight. The length of the line will determine the number of leaves to use in the springs.—R.H.



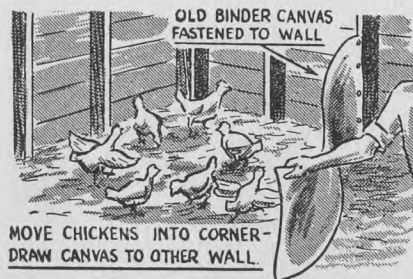
Soldering Straight Seams

When soldering long seams, and you want to do a neat job, place a strip of shipping tape along each side of the seam as it should be when completed. Then run the seam, after which the tape can be removed easily.—R.K.W.



Catching Chickens

An old binder canvas makes a handy way to catch chickens easily and quietly in the henhouse. One end



is fastened to the wall about four feet from a convenient corner. Holding tightly to the other end of the canvas

we move 25 or 30 hens into this corner, and draw the canvas over to the other wall, confining them into a small, triangular, semi-darkened space, where they are easily caught without frightening or injuring them.—I.W.D.

Laying Flooring Tightly

With the aid of a simple lever, flooring may be squeezed up tightly as it is laid. A three-foot angle-iron handle is drilled about three inches from the bottom with a half-inch hole. A one-foot piece of angle-iron is bent down to a sharp point at one end and is riveted to the handle at the other end. To force up the flooring, butt the handle against the board to be nailed then stand on the point of the short piece to force it into the sheathing. Pull back on the handle, squeezing the piece of flooring up tight while it is nailed in position.—J.M.W.



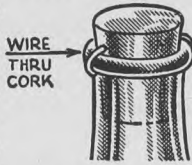
Raising Car Window

A garage charged me \$2.50 for a mechanic's time to get the sliding panel in one of my car windows to go up and down properly. The glass had been pushed down too far. A simpler and less costly way is to use a piece of heavy gauge wire with a hook in one end and a loop in the other. Lower the wire between the glass and the side of the door, turning the wire so it hooks under the glass. Lift the glass, and by turning the lever which is used to raise and lower it, you will soon have the glass working up and down normally.—A.P.



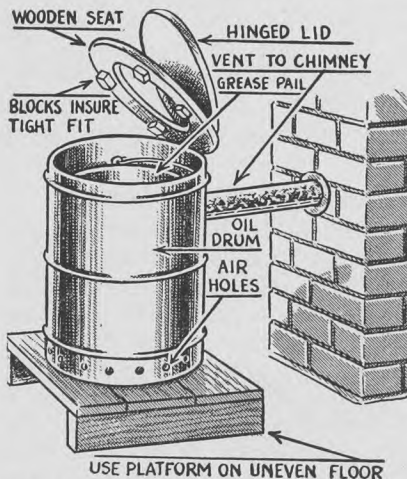
Cork Fastener

Some corks give trouble by coming loose while others are pushed down into the bottle. Both conditions can be remedied by making a hole through the cork at the top of the bottle neck and inserting a wire through this hole. Bend the ends of the wire down to hold the cork in firm position.—W.O.K.



Making a Commode

Cut the top off a small size oil drum to within an inch above the top ring, and drill holes around the bottom for ventilation. If the floor is uneven or you want the commode raised, make a plank platform. Cut a three-inch opening near the top to fit galvanized eave trough pipe, and flare the end of

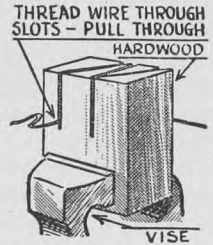


the pipe inside the drum to keep it in place. Run this pipe to the chimney, which should be nearby. Remove a brick from the chimney and chisel out a four-inch hole, insert the end of the pipe and pack it with plaster of paris. Make the seat out of a round piece of wood fitted underneath with wood

blocks so that it will go tightly into the drum. Make a hinged wooden cover for the top. Set a grease pail inside the barrel, and use chemicals the same as those used for a commercially made commode.—A.P.

Wire Straightener

Small wire can be readily straightened by using a hardwood plank, slotted as shown in the illustration. The plank should be held in a vise, the wire slipped into the slots, and pulled through. It is especially handy for straightening wire removed from hay bales.—A.B., Sask.



Chains for Self-Feeders

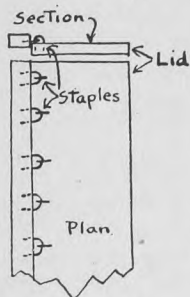
We had trouble with our self-feeders which clogged frequently. To stop this, Dad fastened old chains inside the feeders, allowing them to hang down so that the hogs could jerk them, and there was no more trouble with clogging.—C.B.

Salt Cuts Soot

One night my stove gassed badly and, deciding the pipe must be nearly full of soot, I threw half a cup of salt on the hot coals. Two applications corrected the trouble. To be effective salt should be added every few days when stoves and furnaces are in constant use. Even then ashes may collect in the horizontal part of the pipe and need to be cleaned out. You can tell by the dull sound when you tap on the lower side of the pipe if ashes have collected.—I.W.D.



Emergency Hinges

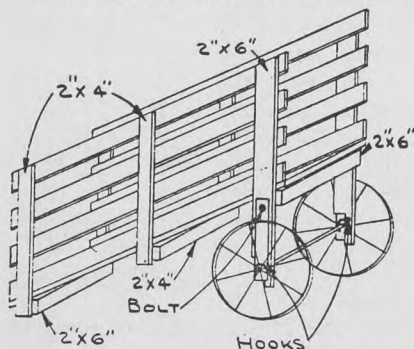


Emergency hinges have often been made from leather straps, canvas or some other flexible material. They can also be made by using two rows of staples—one on the mounting

and one on the door or hinge. Drive one row horizontally and the other row vertically, through the "eyes" of the first. For a good job, care must be taken that all staples are put in at the same depth and the same slope.—W.F.S.

Adjustable Loading Chute

This chute is suitable for loading into a high truck or may be lowered for a wagon or trailer. The legs at the high end are made of two by six's with notches three inches wide and six inches deep cut out of the back, lower

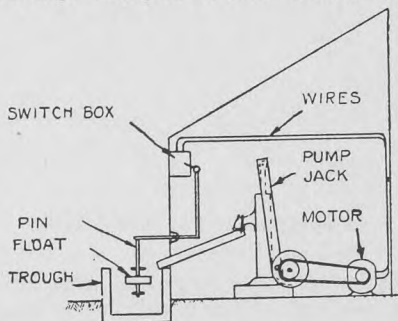


corners. The axle is mounted on two stub two by six's which are hinged at the floor of the chute on heavy bolts shown in the drawing. When in the tall position the axle is held by two hooks from the main legs and when it is desired to lower the chute the hooks are released and the axle allowed to swing back under the

chute. The high end will thus come to rest on its legs, the wheels not carrying any of the load. By placing blocks at the wheels, one man can take the low end of the chute and pull or push it to raise and lower the other end. When up on the wheels, the outfit can be pushed around the yard by one person.—B.H.J.

Float-Operated Pump Switch

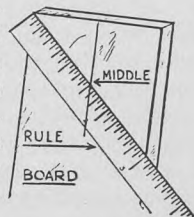
In our barn we have a switch to turn on the pump motor. A float rests on the surface of the water and slides up and down on a thin piece of brass tubing. Two pins or bolts are fastened



through the brass, the lower one to indicate the level at which the motor starts and the upper one to shut the pump off. The brass rod is pivoted so that it has leverage on the switch. The best position of the pins is about eight inches apart with our size of trough.—L.H.

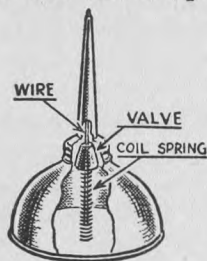
Finding Board Middle

Here is a diagram I use to find the middle of a board. Using this scale is quite accurate, and takes only a minute. For all practical purposes, it is as accurate as by using a compass or dividers.—I.W.D.



Oil Can Valve

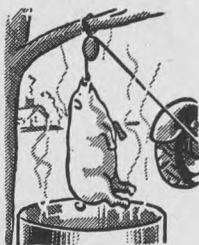
A piece of thin, stiff wire, an improvised valve, and a piece of coil spring, can be used to prevent an oil can from leaking if it is tipped. Take a wire that is equal in length to the



height of the can and force a small, tapered wooden valve over it. Remove the spout and insert the wire so that the tip projects. Slip a spring over the lower end of the wire. In use, insert the wire tip into the bearing hole and press down on the can. The pressure compresses the spring, opening the valve and letting the oil run. When the pressure is released the valve automatically closes.—H.E.F.

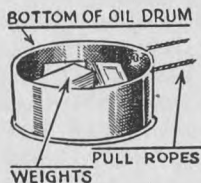
Tractor Helps Scald Hog

I find my tractor very convenient for butchering a large hog with little or no help. After getting everything ready, I kill and bleed the hog, roll it on a stoneboat and pull it to a large tree where a pulley is chained to a large limb. The scalding barrel is placed beneath this limb. I use the tractor to pull the hog up with a hook fastened to its nose, and then lower it into the scalding water until the hair slips. Next I lower the hog and insert the gambrel stick, after which I scald the front end. I can also hold the carcass with the tractor while I scrape and clean it, or slide the gambrel stick onto a supporting pole. I find the wire stretcher useful also for handling the sides and quarters when cutting up.—J.S.M.



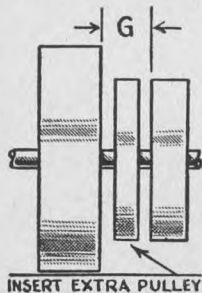
Novel Snow Plow

Cut off a barrel about one-quarter of the way up the side. Drill two half-inch holes in one side about 12 inches apart and four inches from the new top. Insert the ends of a half-inch rope through these holes and knot the ends of the rope on the inside of the barrel. Place 10 or 12 bricks in the barrel for weight then pull the plow along any paths or sidewalks which are to be cleaned and a smooth path with packed walls will result.—P.G.W.



Safe Overhead Pulleys

Ganged overhead pulleys in the workshop may be a source of danger. If the space "G" between pulleys is one-and-one-half times the width of the nearest adjacent belt and the belt runs off its pulley it is likely to get caught and may be broken or ruined and may even pull the shafting, pulleys and hangers down onto the people below. A pulley placed in the vacant space, as shown in the sketch, will prevent this. The diameter of the additional pulley should be between the diameters of the smaller and larger adjacent pulleys.



If a belt runs off a pulley adjacent to a hanger, or strut, it may wind up and break. This can be avoided by attaching a hook or guard to the hanger in such a way that the belt will run onto the hook if it comes off the pulley.—W.F.S.

Carrying Heavy Hog

Here is an easy way to carry a heavy hog after it has been butchered and is ready to be hung up to cool. Two



men can carry it easily on a stretcher or a short ladder, or even on a door. It is no trick at all. Often the hog is too heavy for one man to carry and there is no good way for two men to get hold of it. It is easier with the ladder.—T.H.B.

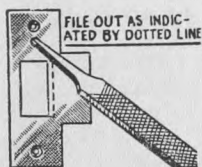
Weighing Fowl

A convenient holder for weighing fowl can be easily made from a piece of tin or heavy cardboard rolled into the shape of a funnel, as shown. Placed in this the bird will not struggle.—A.B., Sask.



Fitting Doors

Doors sometimes have to be banged before the latch will enter the strike.



If inspection shows that the strike is too close to allow the door latch to enter, remove the strike and widen the slot with a file. Do not cut away too much or the door will rattle.—W.E.S.

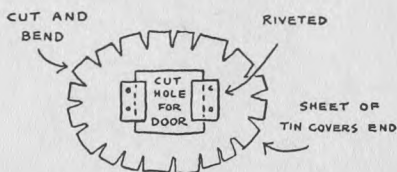
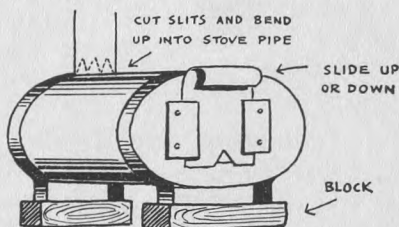
For Trappers

I do considerable trapping, and have found that a long-handled pitchfork is a very handy tool to take along when I run my traplines. I use it for locating an underwater trap, because

you can hear the instant it strikes a trap or chain, and you can pull them in without getting your hands in the icy water. It is also good for finding and loosening traps which freeze in or under the ice and can't be found in the fall. I can also pull skunks and muskrats out of culverts and holes and shoot them easily with the rifle.—J.H.R.

Heater For The Cutter

This heater is made from an old automobile gasoline tank which is sawn in half. The front is cut in an oval-shape from a piece of fairly heavy gauge sheet iron and should be one and one-half inches larger than the end of the tank. It is notched with tin snips to allow bending the edge back over the tank. Cut a square hole in the front for a door and rivet on two guides for the tin slide. The door is notched in the bottom in the form

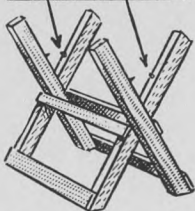


of a V to allow for draft. The hole for the smoke pipe can be made by cutting a section of the top like a star and bending up the points to hold the pipe. Mount the stove on two blocks and fasten it securely with the straps which held it in the automobile. This will prevent it from sliding around and is also a safety feature.—F.P.

Holding Saw-Logs

A small spike, such as is used in baseball or logging boots, driven into each arm of the saw horse will hold logs while they are being sawed. A large nail driven in, sawed off, and sharpened, would serve the same purpose.—E.G.H.

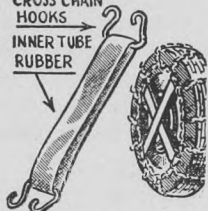
SPIKES HOLD SMALL LOGS ON SAW HORSE



Tight Tire Chains

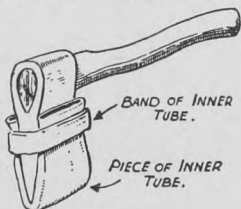
Wide rubber bands cut from old tubes, and provided with hooks taken from worn cross links, as shown, will be found very useful in holding tire chains tightly to the wheel. These are stretched across the wheel and hooked into the chain.—A.B., Sask.

CROSS CHAIN HOOKS
INNER TUBE RUBBER



Protecting Axe Heads

A guard for axe heads can be made by folding a piece of inner tube. Hold it in place with another band of tub-



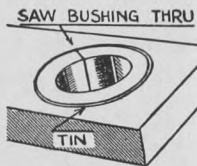
BAND OF INNER TUBE.
PIECE OF INNER TUBE.

ing. This guard will give protection to the axe and will also prevent it from doing damage to other things.—R.M.

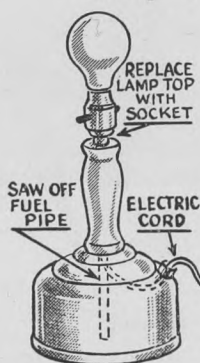
Emergency Bushing Repair

While overhauling an old car engine, I found I had neither new bushings nor a reamer to take up the wrist

pin wear. I sawed through one side of the old bushings with a hacksaw blade and then removed the bushings carefully. I cut thin metal shims to fit under them and pressed the bushings back into place. To ream out the contracted bushing I used a square stick which was wrapped around the middle with a two-inch strip of emery cloth. Holding the stick in both hands I whirled the rod around in the same direction as the cloth was wrapped until the bearing fits snugly.—W.J.B.



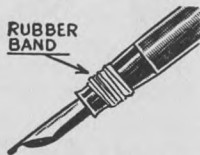
Cheap Table Lamp



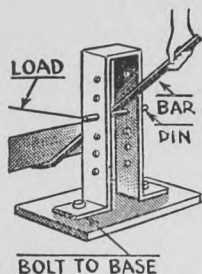
Your old gas and kerosene lamps can be readily converted to an electric lamp, when the hydro arrives, as shown in the illustration. With a shade on they are attractive. — H.Z., Man.

Removing Tight Caps

Have you ever had trouble unscrewing the top of a fountain pen or removing the cap from a jar or bottle? An excellent aid in getting hold of such objects is to wind a rubber band around several times, keeping the band tightly stretched while winding. The rubber will provide a grip that will usually enable one to do the unscrewing with but little difficulty.—W.F.S.



For Prying Up Loads



A handy crow-bar fulcrum can be easily made as shown in the illustration. It should be made of heavy, flat iron, bent and bolted or welded to a base. The adjusting holes should be spaced at regular intervals to provide a wide range of positions.—A.B., Sask.

Electrified Lantern

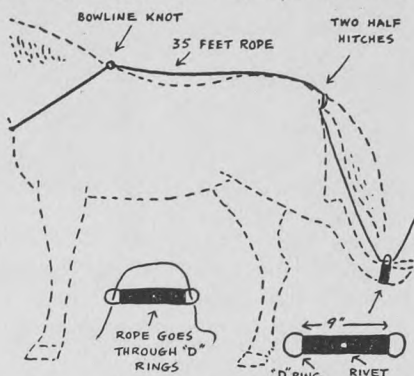


The old oil lantern can be fitted with an electric light fixture and used to give a rustic and attractive atmosphere in a cabin or at the back porch. The electric cord should be run down through the center of the top of the lantern through a hole which is cut smoothly. Solder a metal washer or place a rubber washer in the hole to prevent the edges of the metal from cutting into the wire. The socket for the bulb should be fastened solidly to the sides of the lantern head with either a block of wood or a metal brace.—A.P.

Safety Rope—Horse-Shoeing

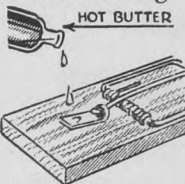
Tie the rope around the horse's neck and place two half-hitches around the head of the tail. This prevents the rope from slipping off to the side. The strap for the foot can be made from a piece of leather about 19 inches long, with the ends folded over to the centre and riveted to hold the D-rings in place. Hold the leather strap around the front of the foot while slipping the

end of the rope through the rings. Thread the rope through a ring in the ceiling and give it a quick and steady



pull to raise the foot of the horse before he has a chance to fight it. The horse should be tied in a narrow stall and will not be able to strike out or fight while being shod.—A.S.

Rebaiting Mouse Traps



Some people don't like to touch mouse traps, others are particularly hesitant when the trap has not been sprung but must be rebaited. In either case, an easy method is to pour a few drops of melted butter or bacon grease on the trigger of the trap. This also has the advantage of keeping it free from the human smell.—J.A.

Stock Tank Leaks

To fix a galvanized stock tank that leaks at the bottom, you can put about three inches of concrete in the bottom of the tank. Reinforce it each way with a strip of woven wire fencing to keep it from cracking. The concrete will shrink slightly in drying and it will probably be necessary to force some heavy roofing putty into the crack between the concrete and the sides.—I. W. D.

Bull Chain Guard

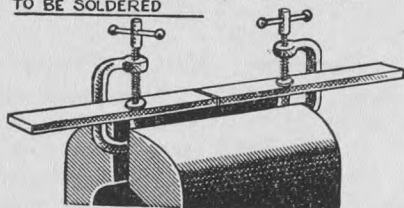
Loose chains hanging from a bull ring are often troublesome as they catch in fences and bushes. To avoid the entanglements and damage which result from them, cut a long strip of canvas and sew it around the chain as a guard. Put some of the stitches through the links of the chain to prevent the canvas from slipping.—K.G.



Welding Clamps

Butt joints can be soldered or welded most easily by holding the

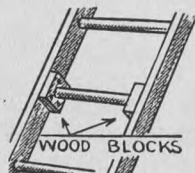
TWO C-CLAMPS IN VISE HOLD METAL TO BE SOLDERED



materials in two "C" clamps. The clamps can be held in a vise which permits adjustments sufficient to make proper alignment. With both hands free to do the work, a neater job can be done.—H.E.F.

Ladder Repairs

This method of repairing broken ladder rungs obviates the necessity of taking the ladder apart. Cut two square blocks from one-inch lumber. Make them the width of the ladder

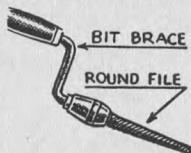


side pieces and of about the same length. If the broken rung is still long enough to reach from one side piece to the other, cut it to fit snugly between

them. If a new rung is required, cut it to fit. Drill a hole through the center of each block to take the rung. Slide the blocks on the rung and place it in position, fastening it there solidly by turning wood screws through the blocks into the sides of the ladder.—C.R.D.

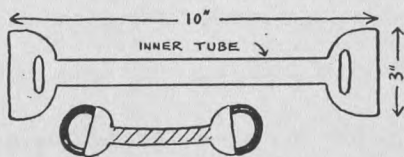
Emergency Reamer

Round files can often be used as reamers for small bearings and small holes which are to be enlarged. The tang of the file is held in an ordinary bit brace and the reaming action is obtained by turning. Where it is desirable to prevent the filings from falling away or into the bearing, a very light coating of grease on the file may be used as a collector. I have used the system many times to ream out holes in castings where grease fittings are to be installed.—E.J.



Frost Protector For Bit

To protect a horse's mouth from sticking to the bit in frosty weather, a piece of inner tube about 10 inches long and three inches wide may be wrapped around it. Cut the tubing to the shape shown and put the ring at



one end of the bit through one of the slots in the guard. Wrap the narrow part of the tubing spirally along the bit, putting the ring at the other end through the slot. The flaps at the ends of the tubing should be on the inside of the rings when the bit is in the mouth of the horse. The size of tubing required will depend on the size of the bit.—J.G.C.

Safe Candle Holder

A safe candle holder for use in camp or in a dark corner of the basement can be made from a pocket



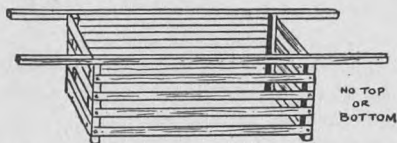
knife. Stick the large blade in the wall or tent post and the small blade, opened at right angles to the large one, into the base of the candle.

Be sure the blades are inserted deeply to eliminate the danger of falling and the system will be very safe as the knife holds the flame at a safe distance from the post or wall.—A.B.

Hog Catcher

The hog catcher is merely a light crate without a top or bottom. You just drop the crate over the hog you want and walk it away in the crate. It is convenient for moving sows into farrowing pens, walking hogs to the

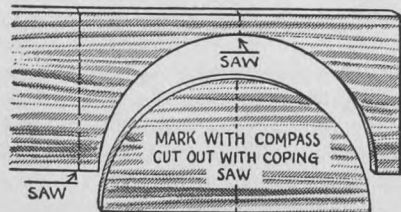
"HOG CATCHER" CRATE



scales or up a loading chute. The size of the box depends on the size of animals to be handled.—M.O.S.

Wooden Braces for Shelves

Try this the next time you need identical braces for wall shelves. To cut these braces so they will be alike,



take a six-inch board and cut off the

end squarely. Make another square mark across the board six inches in from the end, and still another one at the 12-inch mark. Now, with a compass, set its point close to the edge of the plank directly on the first square mark and scribe a semi-circle as shown in the sketch. Finally, cut along the two square lines across the board. Use a coping saw for cutting along the curved part of the braces, and when completed the braces will be identical. It is easy to make any number of identical braces in this way.—H.E.F.

Stone Boat Serves As A Sled

A stone boat with a tongue attached is very convenient as a small sled for

DRILL TIRES

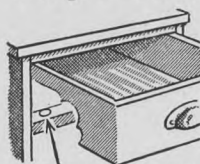


choring around. The tongue makes it safer, easier to steer and able to be backed up by the horses. Cut a three to four-inch post the right length to fit between the runners. Drill a hole through its centre from end to end. If a long auger is not at hand, bore in from both ends and burn the rest through with red-hot rods. Use at least half-inch rod and draw it up tightly with large washers at each end, on the outsides of the runners. Next saw a notch at the centre of the post and bolt on the tongue. Add heavy braces to each side as shown.—M.D.N.

Gasoline Moisture Trouble

I prevent moisture trouble in my gasoline tank during the winter months by keeping the tank always full. This cuts down the amount of moisture-laden air in the tank, and also decreases rust and sediment collection there. This precaution is especially important if the car is kept in a heated garage.—I.W.D.

Keep Drawer from Sticking



DRAWER RUNS EASILY
ON THUMB TACKS

Ordinary wooden drawers often stick when being moved in and out. This is due to friction, which can be lessened considerably by putting in a thumb tack with a rounded head in the board underneath the drawer, using one on each side. This simple remedy will save a lot of irritation.—R.K.W.

Moving Ice Cakes



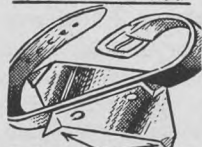
OLD WHEEL, AXLE AND
TONGS MAKE GOOD
ICE HOIST

This is a device I made for lifting ice cakes out of the water and onto a wagon. It is made from an old wagon wheel and axle, with a light pole chained to the other axle. One man can lift the cakes from the water with a pair of heavy tongs and place them on the wagon quite rapidly, and with a minimum of handling the wet ice.—L.J.H.

Ice Creeper

Here is a never-slip ice creeper made from two mower sections. They are very simple to make and on icy footing would prevent falls which might well be serious. It takes only a moment

RIVET TWO MOWER
SECTIONS TO STRAP



BEND DOWN POINTS

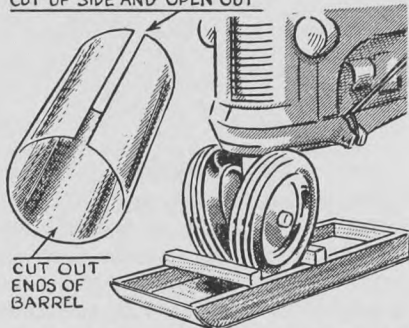
to put them on and off. Heat the entering or forward part of each mower section and bend it down about one-half inch. On one section heat both side points, then thin and sharpen them, and bend them down about one-fourth inch, then assemble the two so that the section

with the three sharpened points is on the bottom and the other on top, using a heavy strap with a buckle, on top of both and riveted to the two mower sections with two heavy rivets.—I.W.D.

Snow Packer

I made the device shown here to use with my row-crop tractor when packing the snow in the lane or around the feed yards. It ought to

CUT UP SIDE AND OPEN OUT

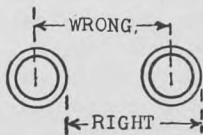


CUT OUT
ENDS OF
BARREL

work with any narrow front tractor. The snow will pack easily and the drive wheels do not cut down so much. By making the cleat back of the front wheel so that it is removable the tractor can be run in and backed out without jacking up the front end.—E.L.F.

Measuring Center to Center

When measuring from center to center, be sure you do it the right way. If the distance is eight inches center



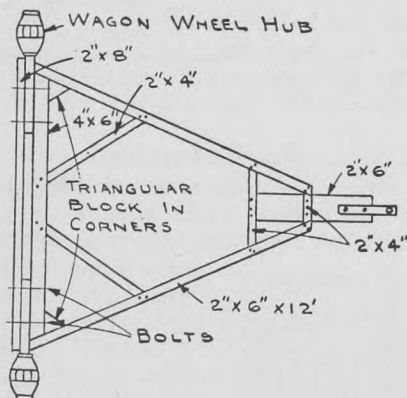
to center of two pipes, the right way to prove it is to measure from edge to edge, because accurate measurement is much easier and quicker this way. Even if the two pipes or pulleys are of different diameter, a little figuring first, will enable you to do it the right way, and get more accurate measurements.—W.F.S.

Rust-proofing Pails

If containers are subject to rusting, it is a simple matter to remedy the situation. Remove all old rust and clean the surface, leaving it dry. Heat some asphalt (available from old "B" batteries) until it melts. Add enough gasoline to bring it to the consistency of thick paint. Apply this mixture to the cleaned surfaces with a brush. Two or more coats can be applied but two are usually adequate. Pour enough gasoline into the pail to heat it thoroughly in burning. A tablespoonful is enough for a 10-quart pail. In burning, it will harden the asphalt into a shiny, impregnable coating. Do not overheat as this will cause the material to chip off. Large water tanks and barrels can be treated in the same way.—F.E.B.

Building Mover

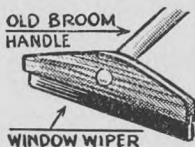
I built this framework for moving brooder houses but find that it serves many other purposes. An old wagon



axle was cut in half and extended by bolting two by eight's on each side. The spokes were cut off the hubs, making a wide bearing surface to carry the load without cutting into the ground. The braces and hitch arrangement are shown in the sketch.—B.H.J.

Window Wiper for Concrete

The best way to get surplus water off a concrete floor, I have found, is to use a rubber window wiper. It is not much of a trick to fasten it to a stick or an old broom handle, and when in use the wiper is drawn toward the drain. It is surprising how dry one can get the floor.—W.G.C.



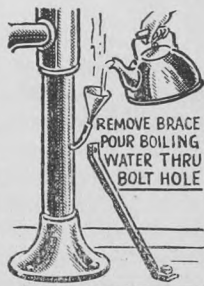
Initials on Your Tools

All you need, to engrave your name or initials on all your tools in an easy and quick manner, is a little bit of soap, and either acid from an old battery, or a little sulphuric acid purchased for the job. Apply a fairly thick coat of soap to the area to be engraved, then carve your name or initials into the soap so that the metal beneath will be free of soap. Drop the acid into the carved-out portions and allow to stand for a short time.—M.E.P.



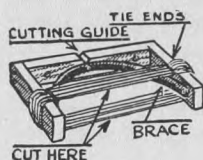
Thawing the Pump

Here is a handy way to thaw out a frozen pump when the drain hole gets plugged in cold weather. On the side of the pump standard, where the brace is bolted on, remove the bolt and insert a small hose, and with a small funnel pour hot water into the pump.—I.W.D.



For Baler Ties

Few things on the farm are more aggravating than trying to pitch hay that is full of long baler twine. I overcame this by making a bracket from a piece of board with two extending



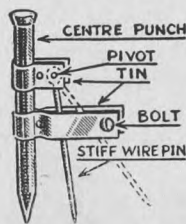
arms of any stout wood, and screwing this to the wall of the feed room in a handy position when the bales are opened.

The inside corners of the arms should be braced. After unwinding the ties from around the bales, these are wrapped around the outside of the arms, the free ends are tied together, and the twine wrapped snugly around the arms. The lot can be cut in the center as indicated in the drawing and a good supply of belt strings about 20 inches long secured, which can be hung in the granary for convenience.

—H.R.N.

Center Punch Measure

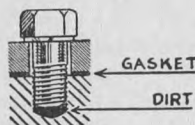
This simple, adjustable attachment on your center punch will help you to space holes evenly in sheet metal. Cut a four-inch and a two-inch strip from



a piece of sheet metal. Bend both pieces around the center punch, as shown, fastening the longer piece tightly and having a sliding fit on the shorter piece; rivet a length of stiff wire to the latter piece. In use make the first indentation with the center punch, and then lock the wire in position at the right width by tightening the wing nut on the longer metal strip. By holding the wire tip in the indentation made previously the holes in the metal sheet will be evenly spaced.—H.E.F.

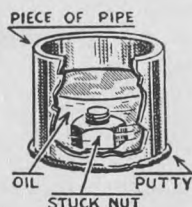
Blowing Gaskets

Have you ever had trouble with gaskets that blew out repeatedly, even though the cap screws were tight? I had this trouble, and decided that the screw holes were not deep enough. On investigating I found that the bottoms were full of dirt, and the cap screws were prevented from making the gaskets tight. Upon removal of the dirt no more gasket trouble was experienced.—W.F.S.



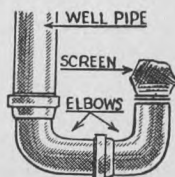
Loosening Rusted Nuts

Penetrating oil can be held over a rusted nut on a flat surface by making a small "tank" over the nut. A piece of pipe will serve as the oil reservoir, and putty or modelling clay can be used to seal the lower surface so the oil will not leak out. If you have no pipe the putty or clay can be used to build up the reservoir.—W.F.S.



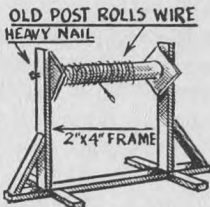
Pump Intake

When the water in a well is low, it is advisable to make some arrangement to keep the sand out of the intake of the pump piping. One simple method is to use a "U"-shaped foot made out of two pipe elbows. The base of the pipe can then be lowered to the sand but sand will not be drawn in with the water. A screen should be tied over the open end of the pipe as an added precaution against sand and foreign matter.—E.R.



Reel Bale Wires

This is a handy device I made for rolling up discarded bale ties when I remove them from baled hay or straw. I took a 20-inch piece of four-inch round fence post, sawed off the end square, and made a stand for it as shown. This could be put on the wall if desired, but sometimes it is convenient to move it. When rolling up wires, I generally unfasten them at the joint and make a short hook of one wire to put into the eye of the preceding wire, and then turn the post until the new wire is rolled up. This device keeps the wire from getting tangled or buried in hay and manure, and practically eliminates the danger of short pieces being picked up by cattle and horses. The wires can also be used again if necessary.—D.R.



Extends Muffler Life

When gasoline is burned in a car, water is formed and passed out through the exhaust as vapor. In cold weather it condenses in the muffler and causes rusting. To remedy the situation simply drill a small drain hole in the lowest part of the muffler shell. The life of the muffler will be greatly extended.—S.B.P.

Damaged Threads

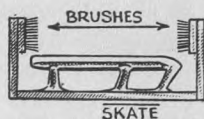
If the threads in a tapped hole become bent or damaged, quarter the end of the bolt or screw with a hacksaw, as shown. After slotting the screw close the slots.



This will taper the end so that it can be started in the hole.—A.B., Sask.

Three-Side Boot Scraper

An old skate nailed upside down to the doorstep is a familiar boot scraper. Two uprights added at either end of the skate, each with a stiff-bristled scrub brush facing inward, make a doubly efficient boot cleaner. While the skate cleans the sole of a boot, the brushes clean the sides of the welts and uppers.—M.K.



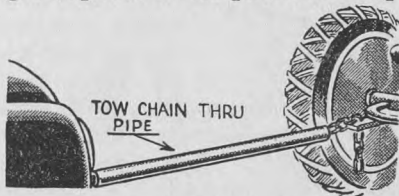
Cutting Sheet Metal

When cutting a square or rectangular opening in sheet metal, mount the sheet in a vise and cut it with a cold chisel. Mark the portion to be cut out and align the jaws flush with one of the lines to be cut. If the chisel is rested at a slight angle the shearing action will cut through the metal readily and leave the corners square.—A.B., Sask.



Steady Tow Chain

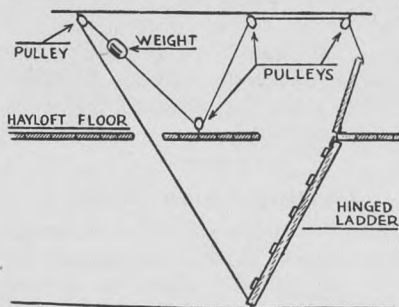
When pulling a car, tractor or truck, I run the tow chain or rope through a piece of pipe and make it as tight as possible. The pull is thus kept



more steady and no brakes are required on the vehicle being towed. This idea saves many lunges and jerks as the machine is pulled up and down hills.—J.H.R.

Hayloft Ladder

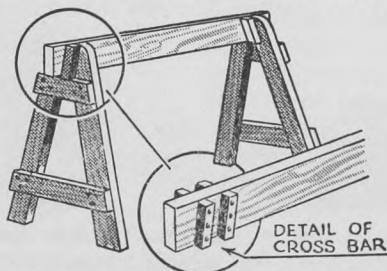
This ladder system is particularly advantageous in a small barn where the space is limited. It is hinged to the ceiling so it can be pushed up out of the way while not in use. Through the rope and system of pulleys the loft



door and ladder work together; as the ladder goes up the door closes and as the ladder comes down the door opens. The two are balanced by a weight. The slot in the loft floor should be long and narrow to avoid wear on the rope. A short length of rope hanging from the bottom rung of the ladder makes the unit more convenient.—O.A.M.

Collapsible Sawhorse

This type of saw horse has much advantage over the solid type where storage space is limited or where the horses are moved frequently. The dimensions can be designed to suit the

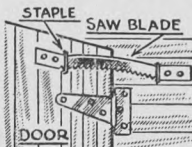


particular work to be done. Care should be exercised to ensure that the slots are snug-fitting. The unit should

be assembled with screw nails but ordinary nails can be used if they are bent over and cleated tightly.—A.B.

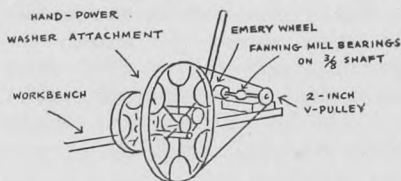
Door Spring

The blade of an old Swede or buck saw makes an excellent door closer for outbuilding doors. It should be installed with the door closed by fastening it solidly with large nails or screws. Place one half of the blade over the door and the other half over the wall with a slight outward bend in the center. Make two staples of heavy wire and drill holes for the staples in the wall and the door. The staples should be placed at about 10 inches from the ends of the blade. Tie them on the inside of the building and of the door. Adjustments in the tension can be made by moving one or both of the staples.—H.R.N.



Inexpensive Bench Grinder

Anyone with an old crank-wheel from a hand washer can make a bench grinder like the one I made



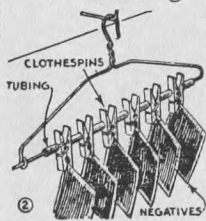
for my shop. A heavy flywheel is mounted on the same shaft as the crank-wheel to make it operate more smoothly. Mount the grindstone on a three-eighths inch shaft which is supported by two fanning mill bearings. On the other end of the shaft, key a two-inch V-pulley and line it up with the large wheel. An old V-belt or piece of lacing may be used to transmit the power. The speed ratio will be about 48 to one.—J.C.S.

Sheet Metal Roofing

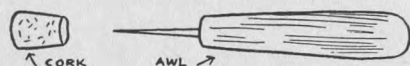
When nailing down metal roofing the best of workmen are bound to miss the sheathing boards occasionally. A loose nail does not form a water-tight bond with the metal. To rectify the situation, carry a tube of liquid solder at all times and place a liberal amount around any holes which are not leak-proof. The solder will last nearly as long as the roofing itself.—K.G.

For Amateur Photographers

The drawing shows a negative drier and holder that is sure to come in handy in your dark room. The only items you need to make such a holder are some clothespins, pieces of small rubber tubing and a coat hanger. ②



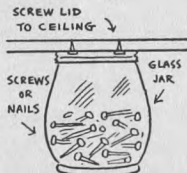
Safety First



When the awl is to be carried in a pocket or apron, place a cork over the end. This prevents damage to both the person and the awl.—J.M.

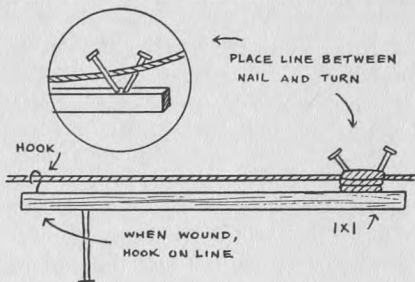
Jars For The Shop

This is not a new idea but there are probably many who do not know about it. Jars make very handy containers for small screws, nails, nuts and bolts. The lids should be fastened to an overhead beam or board and the jars can be taken down with one hand by reaching and giving them a slight turn.—C.K.



Clothes Line Tightener

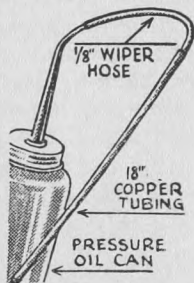
Drive two nails in a short piece of scrap lumber so they are spaced about one inch apart and slant away from



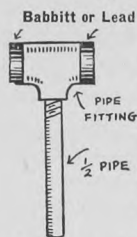
each other. The board can be one by two or two by two inches. In the other end and on the same side, put a screw hook or a small nail bent over to act as a hook. Drive a large spike into the bottom of the board. To tighten the line, it is placed between the slanted nails and the board is cranked around. To hold it in place, merely catch the hook on the line.—M.K.V.

Oiling Idea

I have always had trouble oiling hard-to-get-at places such as door locks, window regulators, and others, without dismantling a lot of material. I bought a piston-grip, pressure oil can, attached an eight-inch piece of one-eighth-inch wiper hose to the spout, and inserted the end of an 18-inch piece of one-eighth-inch copper tubing in the other end. Now, I can get the right amount of oil where I want it without oiling everything else in the car. The wiper hose gives flexibility, the copper tubing reaches into difficult places, and the pressure feeder gives positive results.—E.H.



"Soft" Hammer Head

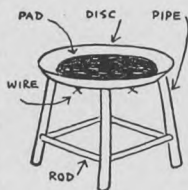


The hammer shown is made by pouring lead or babbitt into a "Tee" pipe fitting on the end of a short length of handle. To reduce the weight, scrap metal or other non-combustible material may be put in the "head"

before the lead is poured. Wrap paper around the head to prevent the lead from spilling while it is being poured. This hammer will not mar the ends of steel shafts, etc., yet has the weight to deliver a powerful blow.—W.F.S.

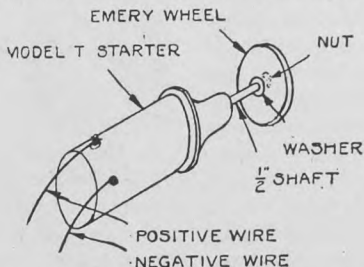
Milk Stool

A comfortable and sturdy milk stool can be made by welding legs to disc blade. I used three-quarter inch pipe for legs and half-inch rod for leg braces. A piece of sweat pad fastened in the centre of the disc with short pieces of wire makes the stool warm and comfortable.—E.T.



32-Volt Motor

A six-volt starter from a car can be used as a motor and driven by a 32-volt plant by placing a rheostat in the circuit and setting it for about eight volts and 100 amperes. If the power

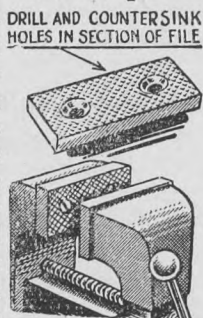


is supplied by a motor-driven generator or welder, the speed of the motor

can be cut down. Thread the shaft of the starter and weld a washer on it two and one-quarter inches from the end. An emery wheel, saw or buffer can be tightened on the shaft and makes a handy power tool. Most starter shafts are half an inch in diameter.—E.A.J.

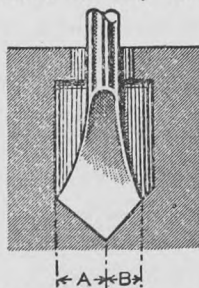
Replacing Vise Grip

Instead of discarding a vise just because the jaw grips have lost their grip, remove the old grip plates and, using these as patterns, cut new ones from an old wood file. Mark the screw holes at the same time, with a center punch. Countersink the holes, and fasten them on the same way as the old ones.—R.K.W.



To Make a Twist Drill

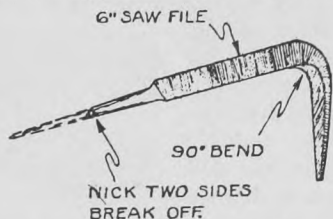
A twist drill of a needed size can be made out of drill rod steel. It can be made in any size, in the manner



shown in the drawing herewith. Heat the end red-hot and hammer out flat; then cut, grind, harden and temper. If a drill to make a half-inch hole is needed, the dimension A should be a quarter-inch, and B should be equal to A, so that the point will exactly center. On the other hand, if B is less than A, as shown in the sketch, the bottom of the hole can be made greater in diameter than the top. To get correct cutting angles, the best practice is to imitate those you find on standard drills.—W.F.S.

Set-Screw Wrench

Safety keys often become lost or are not supplied at all. For emergencies, one can be made from a three-sided tang by breaking it off at the desired size and bending the end in a vise. A more universal tool can be made by grinding both ends to



proper fits for two sizes of screw. Heat the ends to dull cherry red and quench them in oil to temper. Heat the file in the centre and bend to a right angle.—R.S.

Saves Labor Sawing

When using a small portable saw to cut wood, it means taking hands from the wood to push and pull the

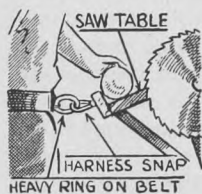


table back and forth. I find a much safer way is to wear a heavy belt with a ring on the front. I fasten a snap from a horse halter to the saw table, and snap it into a ring on the belt. By this means, I never need to touch the saw table, as it will pull back as I step back.—H.S.

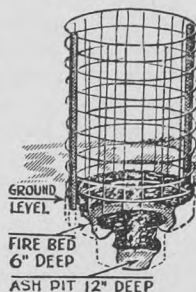
Winter Oil Flow

The grease from the differential and transmission of a car or truck becomes very thick and slow moving in cold weather. To get grease out in such weather, it is best to take a valve stem out of an old inner tube and solder it to a short pipe nipple of the right size to screw in place of the filler plug. Connecting this to a pressure

air hose will force the grease out much faster. The same idea can be used on a filler plug of an oil barrel in winter to speed up the flow of stiff oil—I.W.D.

Garden Incinerator

Farm people must be particularly cautious about fire hazards since fire fighting brigades are not usually close at hand. When burning rubbish or paper, a proper incinerator should be used. Form a cylinder from a nine-foot length of woven wire fencing. Dig a hole in the ground three feet in diameter and about six inches deep with an inner hole 24 inches in diameter and 12 inches deep. Set the coil of wire in the shallow hole and support it with two metal rods or pipes. Throw the rubbish to be burned into this incinerator; if it is light material and likely to throw sparks place a wire cover over the unit. When the burning has neared completion, remove the wire coil and fill in the hole thus covering live embers and hot ashes. There should be no danger of flare-ups of the fire after these precautions.—A.P.



Pulling Nails

Everyone, at one time or another, finds it necessary to pull quite a few nails at one time with a claw hammer. A small block of wood fastened to the hammer with a rubber band will greatly speed up the job and eliminate many irritating slips.—A.B.



Fork Strainer

I made this handy strainer for lifting out the slushy ice which collects in the stock tank in cold weather.

We took a piece of galvanized hardware cloth with about a quarter-inch mesh, wove the tines of a manure fork through two or three of the meshes, and then clipped it to the back of the fork with hog rings. Now we have a fork with which we can lift out all small or slushy ice or loose straw without difficulty.—J.M.M.



Screwdriver Doesn't Slip

Very often a screwdriver will slip out of the slot, especially when the screw is very tight. In such cases, I

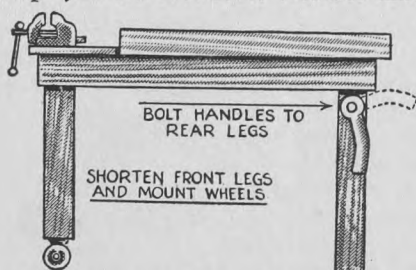


apply a little oil and emery dust or fine sand, which makes the screwdriver hold much better. Sometimes a tight screw can

be loosened by setting a punch on the head and tapping it with a hammer. Holding a very hot rod or soldering iron on the head will also help to loosen it.—I.W.D.

Portable Bench

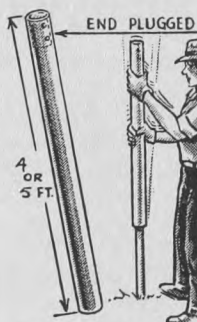
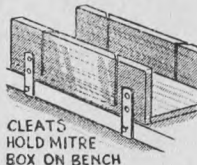
If your shop is fairly good size, perhaps you can save some valuable time



by making a small work bench into a portable one. One garage mechanic

did this by shortening two legs and adding a pair of wheels. Handles were then put on the end opposite to the wheels, in such a way that when not being used they hung down the side of the legs out of the way.—R.K.W.

Mitre Box Cleats. Two cleats placed on a mitre box, as shown, so they can be placed against the edge of the work bench, will keep the box from jumping around when in use. On mine I have drilled a hole in each cleat, and tack it to the bench.—E.S., Sask. V

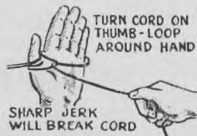


Pipe Post Maul.

A one-inch rod four or five feet long with one end plugged with a piece of steel rod four or five inches long makes an excellent tool for driving ground rods to a height that permits them to be driven with a sledge hammer. A larger pipe made on the same plan can be used for driving fence pickets, if the pickets are straight.—E.S. V

Breaking Cord.

Binder twine, which few people can break in their hands on a straight pull, can be readily broken if wrapped around the hand. Anchor the twine around your thumb and drop the part to be broken around the palm of your hand, as shown. A sharp jerk will break the cord where it pulls across itself.—M.M.E. V



Convenient Shower. Men coming from the field may wish to have a shower, and I have found a tank placed in the sun allows the water to heat enough that showering can be done comfortably. If there is a big demand for showers, use a large tank.—I.W.D.



Cotter Pin Mark. File a mark across the threaded end of a bolt or axle to correspond with the cotter pin hole. When a nut has to be tightened on and pinned it does away with guessing if the holes in the nut and bolt are in line. I have used the same idea in assembling gears or pulleys which are pinned to a shaft.—A.B., Sask.



Salt Saver. If the salt block lies on the ground moisture soaks up from below and dissolves some salt, and rain water will lie in the hollows the cattle have licked out and dissolve more. I took two 19-inch pieces of pole and nailed two cleats across, as shown, and find that my salt blocks last longer.—A.M.M.



Tack Puller. I made a dandy tack puller by bending the point of an old screwdriver, and filing a notch in it, as shown in the illustration.—E.S.



Homemade Pulley. For cutting down motor speeds I made a large pulley from an old 30 by 3½-inch car rim. I bolted a one by six on each side, found the center, and bored a hole to fit the shaft I was going to use it on. I bolted a cleat beside the hole in the one-by-six, drilled a hole through the shaft, in line with the cleat and put a pin about four inches long through it. When the pin strikes the cleat it turns the pulley. A split collar clamped to the shaft and bolted to the one-by-six would work as well as the pin arrangement.—I.W.D.



Garden Aid. Tall growing plants can be easily supported in the method shown in the illustration. The stake with the holes drilled in it can be located when the plant is first put out, which avoids root damage. As the plant grows the loop of wire can be moved up the stake.—A.B., Sask.



Nut and Washer Rack. Take a piece of strong wire and bend it to form hooks, as shown in the illustration. Slip nuts and washers over the hooks according to their respective sizes. I find that a few of these hung on a roof beam or wall keep washers and nuts within quick and easy reach.—G.C.



Longer Life for Fence Posts

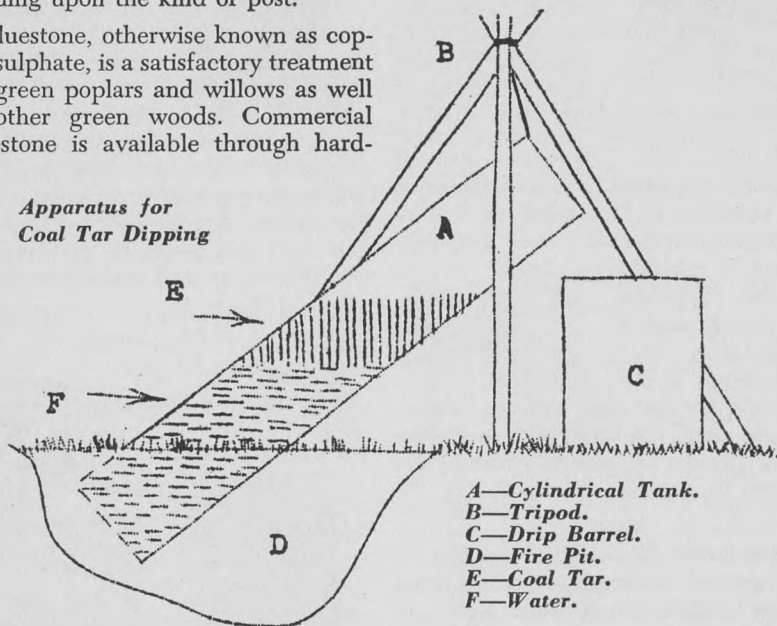
Experiments at the Dominion Range Experiment Station, Manyberries, Alberta, that have been conducted during the past 20 years indicate that it is sound business to treat fence posts with either bluestone or coal tar, depending upon the kind of post.

Bluestone, otherwise known as copper sulphate, is a satisfactory treatment for green poplars and willows as well as other green woods. Commercial bluestone is available through hard-

the posts will be standing in 2½ to 3 feet of it.

Early spring is the best time to cut poplar posts, and they should be treated as soon as possible after cutting so they do not have a chance to dry out. The posts take the treatment

*Apparatus for
Coal Tar Dipping*



ware dealers and costs about 15 cents per pound today. It is recommended that a saturated solution of bluestone be used and this requires 2½ to 3 pounds of bluestone per gallon of water.

A concrete vat should be constructed in an excavation in the ground. One that is 4 feet wide, 4 to 6 feet in length and 3½ feet deep with 4-inch walls will be suitable to handle 150 to 200 posts depending on their size. Wooden barrels may be used for a few posts, but the bluestone solution which rapidly corrodes metals will soon damage the barrel hoops. Fill the vat with sufficient concentrated bluestone solution so that the butt ends of

more rapidly on a warm, sunny day. Posts to be driven should be sharpened before treating, and the bark should be peeled from that portion which will be below ground on all posts. In addition, a strip of bark should be removed from the entire length of the post. The posts are placed on end in the vat with the sharpened or butt ends down.

Under favorable conditions, treatment will be completed in 6 to 12 hours. The progress of the treatment can be noted by watching the blue color rise along the peeled strip. As soon as the color reaches the top of the post, treatment is complete and the posts may be stacked ready for use.

While this treatment is primarily suited to green posts, it has also been used successfully on dry cedars. Such cedars should have the butt ends soaked in concentrated bluestone solution for a prolonged period of two weeks or more.

Fences constructed with bluestoned poplars in 1928 at Manyberries are still giving good service with over 90 per cent of the original posts still sound. Other similar fences in the area adjacent to the Cypress Hills, built as early as 1905, today retain the major portion of the original bluestoned poplar posts—after 43 years. Untreated poplars rot off completely in 2 to 4 years.

The coal tar treatment is best for dry cedar or tamarac posts, but it can be successfully used on any kind of dry post. The tar has to be applied at a high temperature, otherwise it is too thick and sticky to use. Posts should be dry and well seasoned, with all bark removed from the butt ends.

A discarded hot water tank with one end removed is handy for the coal tar dipping. It is suspended at an angle of 45 degrees over a fire pit. A tripod of old pipes may be used to suspend it or one end of the tank may rest on an empty 30-gallon drum into which the posts can drip briefly after being removed from the hot dip.

Fill the tank two-thirds full of a 50-50 mixture of coal tar and water. Heat this mixture until it foams violently, then dip the butt ends of the posts into it one at a time, making sure treatment extends 6 inches above the future ground level at which the post will be set. If the post will be set two feet deep, the bottom two and one-half feet should be dipped in the tar. This treatment coats the surface of the post with a thin layer of tar that makes it impervious to the penetration of rot.

Care is necessary in adding more tar or water as violent boiling will occur

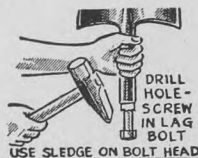
if these ingredients are poured into the hot foaming mixture.

A 45-gallon drum of coal tar costs approximately \$35 today and can be purchased through hardware or oil dealers. This quantity is sufficient to treat 1,000 to 1,200 split cedars depending upon their size.

At Manyberries the coal tar treatment used on cedar and tamarac posts has considerably more than doubled the normal life of such posts. Three-quarters of the tarred posts that have been in the ground for the past 15 to 20 years are still sound. Other preservations may also be used, but results at Manyberries indicate that coal tar will give better protection.

Spade Repair. Burning the butt of a handle out of the ferrule of a spade will often ruin the spade. A better

plan is to turn a half-inch lag screw five or six inches long into a hole drilled deep into the broken handle end. If the wood is damp and swelled, dry it by the stove for several days. A few blows with the narrow face of a sledge will drive the handle out.—R.J.R.



Avoiding Cracked Eggs. Two sheets of corrugated cardboard placed inside an ordinary pail will cushion the walls and bottom and make a bucket more satisfactory for gathering eggs. The cardboard can be glued in place.—A.B., Sask.



If your clothes line rusts, clean the rust off and then coat it with shellac, using a cloth or an old paint brush.

